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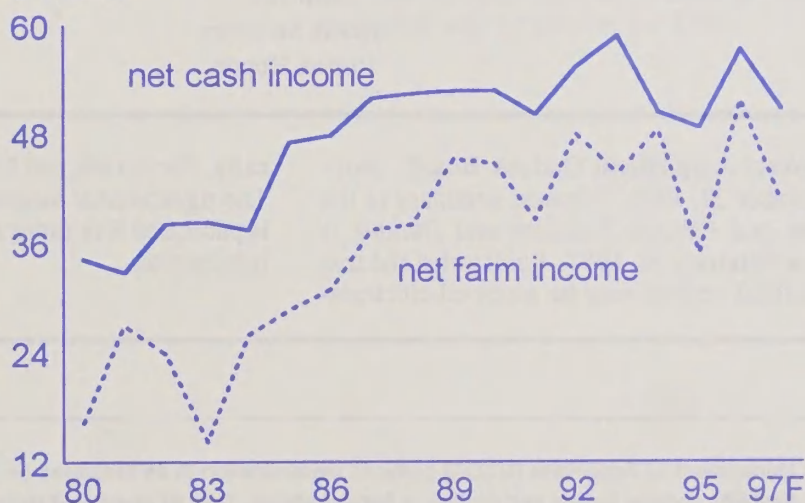
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December 1996

Agricultural Income and Finance

Situation and Outlook Report

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Farm sector income forecast to be close to
1990-95 average
\$ billion



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Summary

Farm Income in 1997 Likely To Decline from Record Forecast for 1996

U.S. net farm income is forecast at \$40 billion for 1997, down from the record \$52 billion forecast for 1996 and the 1990-95 average of \$43 billion. Grain prices will be lower in 1997 as world supplies increase, causing crop cash receipts to drop from the record forecast for 1996. Livestock producers are reducing the beef herd, which will moderately boost prices and help increase 1997 cash receipts for cattle. A decline in dairy receipts, however, will keep total livestock receipts close to 1996 levels. Production expenses will increase less than in recent years as lower grain prices lead to reduced feed expenses.

Crop receipts are forecast at \$102 billion for 1997 and \$108 billion for 1996, with lower grain prices accounting for most of the projected 1997 decline. Corn has more influence on farm income than any other crop. Corn receipts in 1997 are forecast to be exceed the 1990-95 average of \$15 billion, but probably will be lower than the record forecast for 1996. Livestock receipts are forecast at \$92 billion for both 1997 and 1996. Farmers earn larger cash receipts from sales of cattle and calves than from any other type of crop or livestock. Beef cattle producers reduced their herds by about 2 million animals in 1996, contributing to an improved 1997 price outlook for cattle.

The 1996 Federal Agriculture Improvement and Reform Act will determine for the second year in 1997 how much direct government payments farmers receive. Direct government payments are forecast at \$7.6 billion in 1997, down from the \$7.8 billion forecast for 1996. During 1990-95, farmers received 5 percent of their cash income from direct government payments, which averaged about \$9 billion per year.

Production expenses are forecast to be record high at \$184 billion in 1997, but up less than half a percent from the forecast for 1996. Total production expenses, used to calculate net farm income, have increased each year since 1992, reaching \$176 billion in 1995 and approaching a forecast \$183 billion in 1996. Seed, feeder livestock, and fuel expenses are expected to post the largest percentage increases in 1997.

Net cash income is forecast to decrease in 1997 on most farms that specialize in crops. The decline will be largely due to lower receipts rather than higher expenses. Most livestock farms are forecast to have higher 1997 incomes. For many livestock operations, lower feed expenses will be as important as increased receipts.

Lower crop cash receipts will decrease net cash income in all regions in 1997, following almost universal increases in 1996. Regions heavily dependent on corn or wheat, most importantly the Northern Plains and Corn Belt, will have some of the largest declines.

Farms of all sizes are forecast to have some decrease in 1997 net cash income with the largest percentage declines forecast for farms with under \$250,000 in annual sales. These farms generally depend more on wheat and corn for income than the largest farms and 1997 receipts for the two commodities are forecast down.

Farm assets are forecast to top \$1 trillion in 1997 and 1996. Farm real estate assets are forecast to grow 7 percent in both those years while farm debt grows about 3 percent. Solvency indicators will remain favorable for the farm sector as a whole. The debt-to-asset ratio is forecast at 14.6 percent in 1997, compared with 15 percent for 1996.

Farm Income Likely To Decline in 1997 from the Record Forecast for 1996

Grain prices will be lower in 1997 as U.S. and world supplies increase, causing crop cash receipts to drop from the record forecast for 1996. Livestock producers are reducing the beef herd, which will moderately boost prices and help increase 1997 cash receipts for cattle. A decline in dairy receipts, however, will keep total livestock receipts close to 1996 levels. Production expenses will increase less than in recent years as lower grain prices lead to reduced feed expenses.

ERS forecasts net cash income at \$51 billion for 1997 and \$57 billion for 1996. During 1990-95, net cash income averaged \$53 billion. When net cash income declines, farmers have less cash available to support their families, pay debts, or purchase equipment. Net cash income does not include changes in farm inventories of crops and livestock. For example, a farmer might produce a bumper corn crop in 1997 but hold it to sell in 1998 hoping that corn prices increase. The value of the stored corn is omitted from income when calculating the farmer's 1997 net cash income. However, if the farmer sells corn in 1997 that was produced in 1996, that sale is included in income for the net cash income calculation. See appendix tables 1 and 3 for more details on how farm income measures are calculated and for historic farm income numbers.

ERS forecasts net farm income at \$40 billion for 1997 and at \$52 billion for 1996. During 1990-95, net farm income averaged \$43 billion. One important difference in net farm and net cash income is that net farm income includes changes in farm inventories. Consider again the example of the farmer who stores the 1997 corn crop. The value of the stored corn would be included in 1997 net farm income. Also, the value of corn the farmer produced in 1996 but sold in 1997 would be deducted from income for the net farm income calculation. The net effect of these two types of inventory changes on net farm income is shown on the line labeled "inventory adjustment" in appendix tables 1 and 3. The inventory adjustment is forecast to add under \$1 billion to 1997 net farm income, compared with around \$5 billion in 1996, explaining an important part of the forecast decline in net farm income from 1996 to 1997.

Crop Receipts To Decline from 1996, But Should Remain Near Record Level

During the 1990's, crop receipts have averaged \$88 billion a year, providing farmers with 45 percent of their cash income. ERS forecasts crop receipts at \$102 billion for 1997 and \$108 billion for 1996. Lower grain prices due to expanding world grain supplies explain most of the projected 1997 decline. For historic and forecast receipts for crops and livestock see appendix table 4.

Corn has more influence on farm income than any other crop. In 1996, the area planted to corn across the United States was greater than the total area of Iowa and Illinois combined. Production for that year could have provided our Nation's 267 million inhabitants with close to a ton of corn apiece. If corn receipts had been 10 percent lower in 1995, the latest year for which ERS has final estimates, farm sector net cash income would have been 4 percent lower. An equal reduction in soybean receipts would have reduced income by 3 percent, while the same reduction in wheat receipts would have reduced income by 2 percent.

Corn receipts in 1997 are forecast to be above the 1990-95 average of \$15 billion, but probably will be lower than the record forecast for 1996. An increasing supply and slowing exports are dampening corn prices, explaining the forecast decline in 1997 receipts. At the end of 1995, the U.S. corn supply was only 5 percent of the amount used that year for feed, exports, and food. In 1996, good fall weather helped U.S. farmers harvest the third largest corn crop ever. Production also improved in other exporting countries such as Argentina, increasing the supply on the world market. By the end of 1996 the U.S. corn inventory will be about 13 percent of the amount of corn used in 1996.

After corn, soybeans are farmers' second largest source of crop cash receipts, an average \$12 billion in 1990-95. In 1997, soybean receipts will likely be lower than the record forecast for 1996. Forces similar to those expected to shape 1997 corn cash receipts will likely shape 1997 soybean cash receipts. In 1996 farmers harvested the second largest soybean crop ever, helping to bring the yearend soybean supply up to 9 percent of annual use, compared with 8 percent at the end of 1995. The larger U.S. supply, along with increasing supplies in countries such as Argentina and Brazil, will help bring down 1997 soybean prices.

Farmers earned an average \$7 billion a year in wheat cash receipts during 1990-95. Wheat receipts in 1997 should be above average for the 1990's, but below the \$10 billion forecast for 1996. Wheat is yet another crop where increasing U.S. production and international competition will lower 1997 prices. Most wheat planted in the fall of 1996 for harvest in spring 1997 is currently in good condition and output has

ERS forecasts that in 1997 . . .

Figure 1 – Lower corn and wheat receipts will have the largest negative influences on farm income

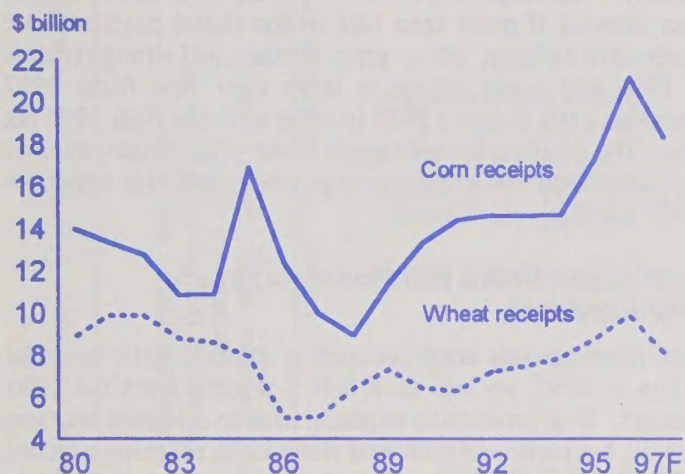


Figure 2 – Beef cattle receipts will increase after 3 years of declines - - dairy receipts will decrease

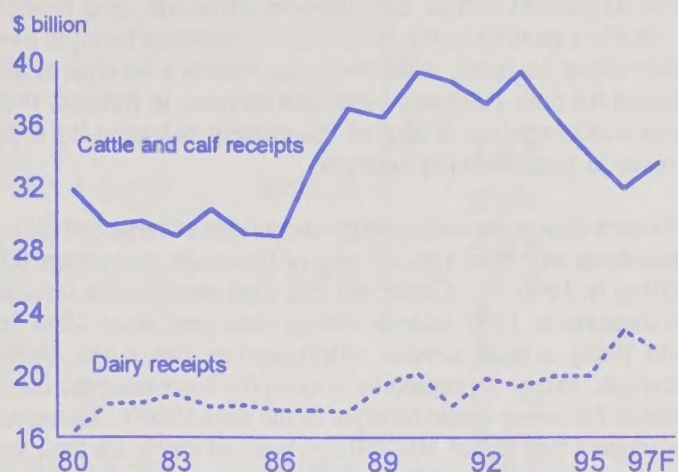


Figure 3 – Overall crop receipts will decline while overall livestock receipts are stagnant

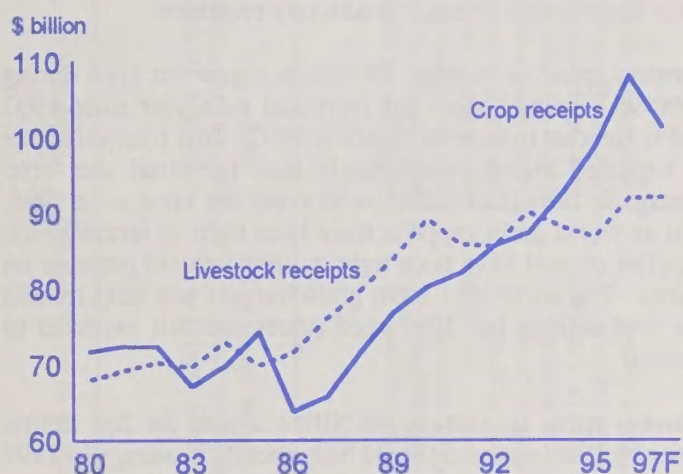


Figure 4 – Expenses for feed will decline while expense for feeder livestock increases

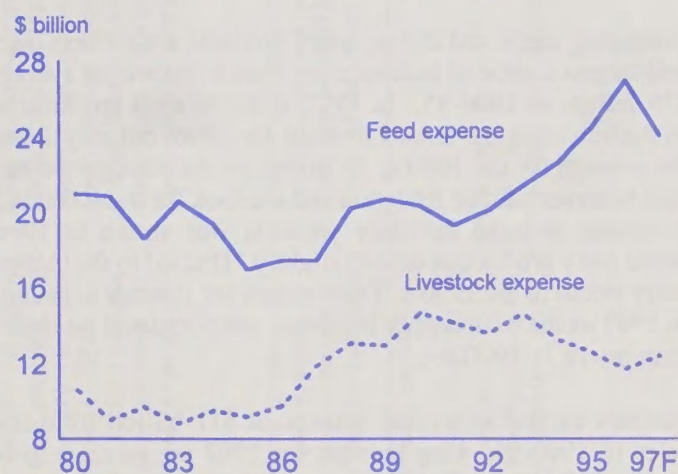


Figure 5 – Production expense will increase less than in recent years

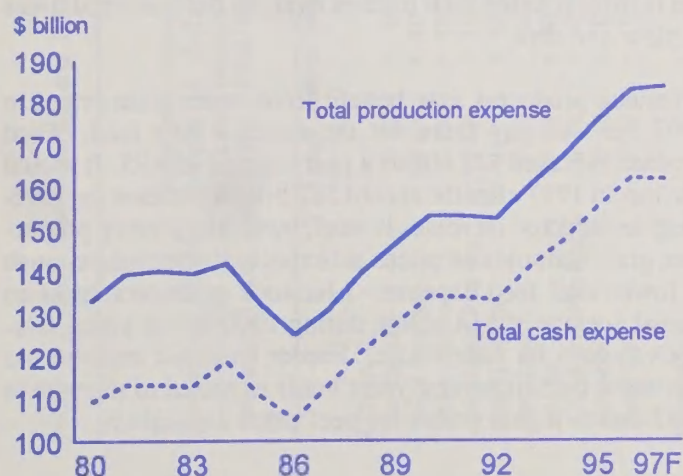
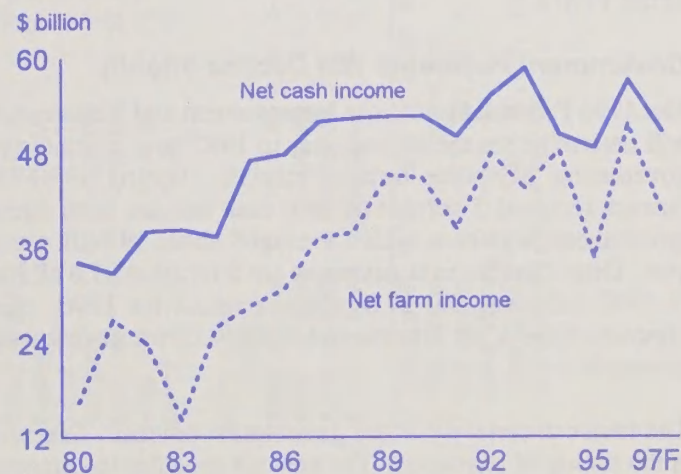


Figure 6 – Farm sector income will be about average for the 1990's



increased in exporting countries such as Australia and Argentina.

Livestock Receipts Forecast Near 1996 Level

Livestock receipts have averaged \$88 billion a year in the 1990's, the same as crop receipts, and have provided farmers with 45 percent of their cash income. However, crop receipts have risen steadily in the 1990's while livestock receipts have been rather stagnant. ERS forecasts livestock receipts at \$92 billion for both 1997 and 1996. An increase in forecast 1997 beef cattle receipts is almost completely balanced by a decrease in forecast dairy receipts.

Farmers earn more cash receipts from sales of cattle and calves than from any other type of crop or livestock, an average \$38 billion in 1990-95. Cattle and calf cash receipts are forecast to increase in 1997 after declining each year since 1994 but will likely remain several billion dollars below the 1990's average. Prices depressed by oversupply have been the major reason for lower cattle receipts in the mid-1990's. Livestock producers had about 104 million head of cattle on their operations at the start of 1996—the largest herd since early 1986. By the end of 1996 producers had reduced the herd by about 2 million animals, contributing to an improved price outlook for 1997.

Following cattle and calves, dairy products are farmers' second largest source of cash receipts from livestock, an average \$19 billion in 1990-95. In 1997, dairy receipts are forecast to decline from the record forecast for 1996, but stay above the average for the 1990's. Bolstered by the strong economy (see Macroeconomic Situation and Outlook for more details), consumer demand for dairy products was strong in 1996, while dairy production dipped slightly. This led to the highest dairy prices in the 1990's. Dairy prices are forecast to decline in 1997 as the milk supply increases, but could still be higher than prices in 1990-95.

Farmers earned an annual average of \$11 billion from hog sales in 1990-95. Hog receipts for 1997 are forecast to be almost \$13 billion, slightly higher than the 1996 forecast and a record. A strong general economy, strong exports, increasing demand from fast food restaurants, and relatively low pork supplies should keep 1997 hog prices among the highest of the 1990's.

Government Payments Will Decline Slightly

The 1996 Federal Agriculture Improvement and Reform Act will determine for the second year in 1997 how much direct government payments farmers receive. During 1990-95, farmers received 5 percent of their cash income from direct government payments, which averaged about \$9 billion per year. Direct government payments are forecast at \$7.6 billion in 1997 following the \$7.8 billion forecast for 1996. See appendix table 1 for historic and forecast direct government payments.

The major uncertainty in the government payment forecasts is the timing of payments. The new act specifies the amount of crop-related payments that will be divided among participating farmers for each of the 7 fiscal years it is in force. The

fiscal year is from October 1 through September 30. For example, fiscal 1997 started on October 1, 1996 and will end on September 30, 1997. Farmers can choose to receive the first half of each fiscal year payment in either December or January. This forecast assumes that 50 percent of the first payment will be in December and 50 percent will be in January. So calendar year 1997 payments could be higher than forecast if more than half of the initial payments are received in January. Many grain farmers had strong receipts in 1996 and could decide to defer their first fiscal 1997 payments until January 1997 in order to lower their 1996 tax bills. The decision farmers make about when to take the first portion of their 1998 fiscal year payment will also affect the 1997 calendar year forecast.

Lower Feed Costs Will Moderate Rise in 1997 Expenses

ERS forecasts that total production expense will be \$184 billion in 1997, up less than half a percent from the 1996 forecast. Total production expense, used to calculate net farm income, has increased each year since 1992, reaching a record \$176 billion in 1995. Lower feed prices are the major reason that total expenses are forecast to rise less than in recent years. Seed, feeder livestock, and fuel expenses are expected to post the largest percentage increases in 1997. See appendix table 5 for historic and forecast production expenses.

Farmers spent an average \$5 billion a year for seed during 1990-95. Seed expense has increased each year since 1992 and is forecast to increase again in 1997. This forecast is due to expected higher prices rather than increased use; crop acreage in 1997 is expected to be about the same as in 1996. Just as world grain supplies have been tight in recent years, supplies of seed have been tight, putting upward pressure on prices. The successful 1996 grain harvest will help rebuild the seed supply, but 1997 seed prices are still expected to increase.

Farmers spent an average \$6 billion a year for fuel during 1990-95. Fuel expense should be higher than average in 1997 because diesel and gas prices are expected to be high in the first third of the year (see Macroeconomic Situation and Outlook for more details). During the early part of the year many farmers will be preparing ground for planting, which can involve running their tractors over the fields several times to plow and disk.

Livestock producers may benefit from lower grain prices in 1997 but will pay more for the animals they feed. Feed expense averaged \$21 billion a year during 1990-95. It should decline in 1997 after the record \$27 billion forecast for 1996. Despite expected increases in beef, pork, and poultry production, grain and soybean prices are expected to decrease enough to lower total feed expense. Livestock producers spent an annual average of \$14 billion during 1990-95 for young livestock to feed for later resale. Feeder livestock expense has decreased the last several years but is expected to increase in 1997 due to higher prices for beef cattle and calves.

Income Trends Will Vary by Region, Commodity Specialization, and Farm Size

Each of the income trends forecast for 1997—including declining grain receipts, improving cattle receipts, and lower feed expense—will affect farm income in some parts of the Nation more than others. Also, the effects on farm income will vary depending on the commodities farms specialize in and farm size. This report will consider only farms with \$50,000 or more in annual sales, called commercial farms, to examine income trends by region and commodity specialty. These farms produce most of the Nation's crops and livestock. For example, commercial farms in the Lake States, Corn Belt, and Northern Plains produce three-fourths of the Nation's corn crop, while noncommercial sized farms in those regions produce under 10 percent. Also, to examine income trends by region, farm type, and farm size, this report will use trends in net cash income rather than net farm income.

Net Cash Income To Decline for Crop Farms, Rise for Livestock Operations

ERS considers a farm to specialize in a commodity if more than 50 percent of the value of everything it produces comes from that commodity. For instance, corn accounts for more than 50 percent of the value of everything produced on commercial corn farms. Net cash income is forecast to decrease in 1997 on most farms that specialize in crops. The forecast decline is largely due to lower receipts rather than higher expenses. Most livestock farms are forecast to have higher 1997 incomes. For many livestock operations, lower feed expense will be as important as increased receipts.

Commercial wheat farms are just 1 percent of all farms but produce 35 percent of all wheat. This type of farm could have one of the largest reductions in 1997 net cash income, following an increase in 1996. Lower wheat receipts are the most important reason, as these farms are very dependent on wheat for income. In 1995, the last year for which ERS has survey data, commercial wheat farms earned 51 percent of their income from wheat sales.

Commercial corn farms are 3 percent of all farms and produce 43 percent of all corn. These farms could also have lower 1997 net cash income following an increase in 1996. The major reason is lower corn receipts; corn sales provided 41 percent of 1995 income on commercial corn farms. Lower soybean receipts will also contribute to the decline, though much less so than corn. Commercial corn farms earned 20 percent of their 1995 income from soybeans.

Commercial beef farms are 5 percent of farms and produce about 40 percent of all cattle. Income on beef farms could increase in 1997 after declining in 1996. Higher beef receipts will provide most of the increase, although lower feed expense will also be important. Commercial beef farms are specialized, depending on beef for over 70 percent of their 1995 income. Higher prices for young cattle will erase part of the gain from increased receipts and lower feed prices. Income on commercial hog farms should also increase, mostly due to lower feed expense.

Income Will Decline in Most Regions After Increasing in 1996

Lower crop cash receipts will decrease net cash income in all regions in 1997, following almost universal 1996 increases. Regions heavily dependent on corn or wheat will have some of the largest declines.

Commercial farms in the Northern Plains make up 4 percent of all farms and are the most important wheat producers in the country, accounting for a third of the wheat crop. The Northern Plains could be the region with the largest decline in 1997 net cash income following a 1996 increase. Lower wheat receipts will be the major reason, although lower corn receipts will also be important. Wheat provided 13 percent of 1995 income in the Northern Plains while corn provided 9 percent. Commercial farms in this region are also among the most important cattle producers, so higher cattle receipts and lower feed costs will partly offset lower wheat and corn receipts.

Corn Belt commercial farms are 7 percent of all farms. They are the Nation's premier corn producers, accounting for half of the crop. Lower corn receipts will likely lower their 1997 net cash income. In 1995 corn provided about 20 percent of net cash income in the Corn Belt.

Income Will Decline Less on the Largest Farms

Farms of all sizes are forecast to have some decrease in 1997 net cash income with the largest percentage declines forecast for farms with under \$250,000 in annual sales. These farms depend more on wheat and corn for income than the largest farms and 1997 receipts for the two commodities are forecast down. In 1995 farms with sales under \$250,000 got about 10 percent of their income from corn sales compared with about 4 percent for larger farms. The pattern was similar for wheat. It provided about 6 percent of 1995 income on the smaller farms but just 2 percent on the largest.

Farm Operator Household Income

Farm operator household income is forecast to increase from \$44,400 in 1995 to \$46,400 in 1997 (appendix table 2). Farm earnings will continue to account for about one-tenth of farm operator household income, reflecting the large number of farm households relying mostly on off-farm income.

Farm operator household income is composed of three major components, (1) the operator's farm self-employment income, (2) other farm-related earnings of the household, and (3) household earnings from off-farm sources (table 2).

The format of appendix table 2 changes in this issue of *Agricultural Income and Finance*. The new format shows in greater detail how the farm portion of operator household income is derived, beginning in 1992. Table 2 shows the same information for commercial and noncommercial farms in 1995. The format was changed to answer questions about how operator household income is measured. The Farm Costs and Returns Survey (FCRS), conducted by ERS and the National Agricultural Statistics Service (NASS) continues to

Table 2--Deriving farm operator household income estimates from the Farm Costs and Returns Survey (FCRS) that are consistent with Current Population Survey (CPS) methodology, by farm size, 1995 1/

Item	Gross farm sales		All farms
	Less than \$50,000 (noncommercial farms)	\$50,000 or more (commercial farms)	
	Dollars per farm		
Net cash farm business income 2/	-1,687*	48,643	11,218
Less depreciation 3/	2,216	20,072	6,795
Less wages paid to operator 4/	75*	1,819	522
Less farmland rental income 5/	743*	844	769
Less adjusted farm business income due to other household(s) 6/	-111*	2,853	649
	Dollars per farm operator household		
Equals adjusted farm business income	-4,609	23,055	2,484
Plus wages paid to operator	75*	1,819	522
Plus net income from farmland rental 7/	942	1,373	1,053
Equals farm self-employment income	-3,592	26,247	4,059
Plus other farm-related earnings 8/	219	1,944	661
Equals earnings of the operator household from farming activities	-3,373	28,191	4,720
Plus earnings of the operator household from off-farm sources 9/	43,187	29,476	39,671
Equals average farm operator household income comparable to U.S. average household income, as measured by the CPS	39,814	57,667	44,392
	Dollars per U.S. household		
U.S. average household income 10/	44,938	44,938	44,938
	Percent		
Average farm operator household income as percent of U.S. average household income	88.6	128.3	98.8
Average operator household earnings from farming activities as percent of average operator household income	-8.5	48.9	10.6

Based on 8,437 observations, *=CV is between 25 and 50 percent, CVs less than 25 are unmarked, CV=(Standard Error/Estimate)*100

1/ The Current Population Survey (CPS), conducted by the Census Bureau, is the source of official U.S. household income statistics. The CPS defines income to include any income received as cash. In-kind receipts are excluded. The CPS definition departs from a strictly cash concept by including depreciation in the list of operating expenses that farm operators and other self-employed people subtract from gross receipts when they report net money income. 2/ A component of farm sector income. Excludes income of contractors and landlords as well as the income of farms organized as nonfamily corporations or cooperatives and farms run by a hired manager. Includes the income of farms organized as proprietorships, partnerships, and family corporations, which are all closely held by households. 3/ Consistent with the CPS definition of self-employment income, reported depreciation expenses are subtracted from net cash farm income. The Farm Costs and Returns Survey collects farm business depreciation used for tax purposes. 4/ Wages paid to the operator are subtracted here because they are not shared among other households that have claims on farm business income. These wages are added to the operator household's adjusted farm business income to obtain farm self-employment income. 5/ Gross cash rental income is subtracted here because net rental income from the farm operation is added below to income received by the household. 6/ More than one household per farm may have a claim on the income of a farm business. The national average is 1.1 households per farm sharing the income of a farm business. 7/ Includes net rental income from the farm business. Also includes net rental income from farmland held by household members that is not part of the farm business. 8/ Includes wages paid to other operator household members by the farm business and earnings (net income) from a farm business other than the one being surveyed. 9/ Income from wages, salaries, nonfarm businesses, interest, dividends, transfer payments, net rental income from nonfarm properties, etc. 10/ From the Current Population Survey.

Sources: U.S. Dept. of Agriculture, Economic Research Service, 1995 Farm Costs and Returns Survey, for farm operator household data. U.S. Dept. of Commerce, Bureau of the Census, Current Population Survey, for U.S. average household income.

provide the required data on operator households' sources of income.

Estimates based on the FCRS differ from what would have occurred if a complete enumeration had been taken. However, the coefficient of variation (CV), a measure of sampling variability, is available from survey results. According to the guidelines for use of the FCRS, any estimate with a CV greater than 25 percent must be identified and interpreted with care. Estimates with CV's that high are indicated in table 2. No estimates with CV's greater than 25 percent appear in appendix table 2.

Operators and Their Households

The operator of a farm is the person who makes most of the day-to-day decisions about the farm, regardless of whether others share management responsibility. For the FCRS, as for the Census of Agriculture, the number of farm operators is the same as the number of farms.

Table 2 represents the farms for which the FCRS collects household income data, which is slightly smaller than the total count of farms. The FCRS collects information about the operator household only if the farm is organized as an individual operation, a partnership, or a family corporation. Information is collected for one household per farm, the operator's household, even if the farm business income is shared among multiple households. The first five items in table 2 relate to the income and expenses of the whole farm business, regardless of how many households share the income of the farm. The remaining items in the table relate only to income received by the operator household.

Defining Household Income

The Current Population Survey (CPS), conducted by the Bureau of the Census, is the source of official U.S. household income statistics. Thus, calculating an estimate of farm household income from the FCRS that is consistent with CPS methodology allows income comparisons between farm operator households and all U.S. households.

The CPS definition of farm self-employment income is net money income from the operation of a farm by a person on his own account, as an owner, renter, or sharecropper. CPS

self-employment income includes income received as cash, but excludes in-kind or nonmoney receipts. The CPS definition departs from a strictly cash concept by deducting depreciation, a noncash business expense, from the income of self-employed people.

Farm self-employment income from FCRS is the sum of the operator household's share of adjusted farm business income, wages paid to the operator, and net rental income from renting farmland. Adding other farm-related earnings of the operator household yields earnings of the operator household from farming activities.

Earnings of the operator household from farming activities are not a complete measure of economic well-being. Earnings leave out some resources the farm business makes available to the household. For example, depreciation is an expense deducted from income that may not actually be spent during the current year. Increases in inventories are excluded from the earnings measure, but they could be sold to raise cash. Nonmoney income, such as the imputed rental value of a farm-owned dwelling, represents a business contribution to household income because it frees up household cash that would otherwise be spent on housing. Finally, earnings of the operator household from farming activities do not reflect the large net worth of many farm operator households.

Operator Household Earnings in 1995

Earnings from farming activities averaged \$4,270 per operator household in 1995. Clearly, this was well below net cash farm income per farm (\$11,218), a measure of cash generated by the farm business. Most of this apparent disparity is due to the subtraction of depreciation from net cash farm income in order to be consistent with the CPS methodology.

For households operating commercial farms, earnings of the household from farming activities averaged \$28,191 (almost half of total household income). In contrast, households with noncommercial farms lost \$3,373 from farming. Although household earnings from off-farm sources were lower for operators of commercial farms than for operators of smaller farms, total household income for operators of commercial farms was higher, and their average total income was 28 percent more than the average for all U.S. households.

Farm Assets, Debt, and Equity Continue Upward for 1997

Farm assets are expected to top \$1 trillion in 1996 and 1997. Farm real estate assets, which grew 7 percent in 1995, are expected to increase 6 percent for 1996 and 5.5 percent for 1997. While farm debt is also continuing to grow about 3 percent a year, roughly half as fast farm asset values, farm equity is expected to continue rising into the second half of the 1990's.

Farm Sector Assets Top \$1 Trillion

Having reached \$978 billion in 1995, farm sector assets are expected to exceed \$1 trillion in 1996 and nearly \$1.1 trillion in 1997. Farm sector assets have grown steadily throughout the 1990's, at an average rate of nearly 4 percent. Growth rates for 1996 and 1997 are expected to be near 6 percent. More than 90 percent of the growth in farm assets is attributable to increased farm real estate values.

Farm Real Estate Values Continue To Rise

Farm real estate values are expected to increase 5.5 percent in 1997, even though 1997 farm income is forecast to decline, after rising 6.0 percent in 1996. During 1991-95, farm real estate rose an average 5 percent a year. That rate of growth exceeded average inflation of 3 percent a year, indicating an appreciation of the farm sector's investment in land and buildings. Beginning in 1993 U.S. farm real estate values have increased even faster, exceeding 6.0 percent annually. In fact, farmland values increased 7.0 percent in 1995, even though net farm income was at its lowest point in the 1990's. It appears that long term expectations for reasonably robust (although variable) farm income, an upbeat long-term outlook for exports, and stable interest rates are key factors prompting continued strong agricultural demand for farm real estate assets.

Continued competition for agricultural land along the fringes of urbanized areas for housing and demand for rural land for recreational purposes are also contributing to the growth in

farm real estate values, especially in the Northeast and some western States.

Nonreal estate assets are expected to increase about \$3 billion (1.8 percent) in 1997. The value of livestock and poultry, machinery and equipment, crops stored, purchased inputs, and financial assets are all expected to rise slightly in 1997. The overall modest increase in the value of nonreal estate assets is due to the relatively stable commodity and credit market conditions forecast for 1997.

Farm Debt Expansion Expected To Continue Through 1997

Farm debt may rise 2 to 3 percent in 1997, following a 3-percent increase in 1996. Farm Credit System real estate debt is projected to register its first significant increase in over a decade in 1996, with growth continuing in 1997. Lower net cash income and higher debt will translate into a rise in farmer use of debt repayment capacity to 60 percent in 1997, up from 51 percent in 1996.

Farm business debt is anticipated to approach \$160 billion by the end of 1997, its highest level since 1985. The expected increase of about \$4 billion will mark the fifth consecutive year of rising farm debt, and follows a projected increase of almost \$5 billion in 1996.

While the growth in debt is expected to fall slightly in 1997 from 1996's 3-percent rate, the two years will continue the

Figure 7 -- Farm business assets growing steadily

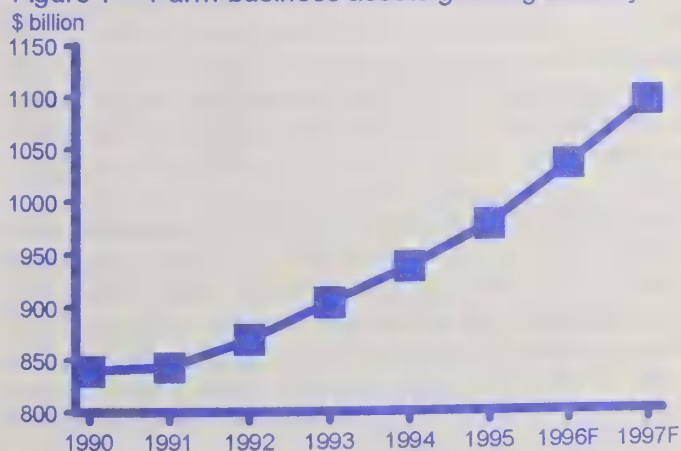


Figure 8 -- Farm real estate becoming more valuable

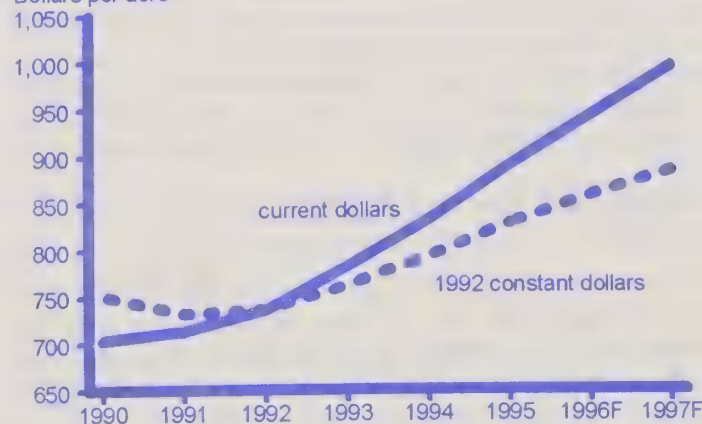
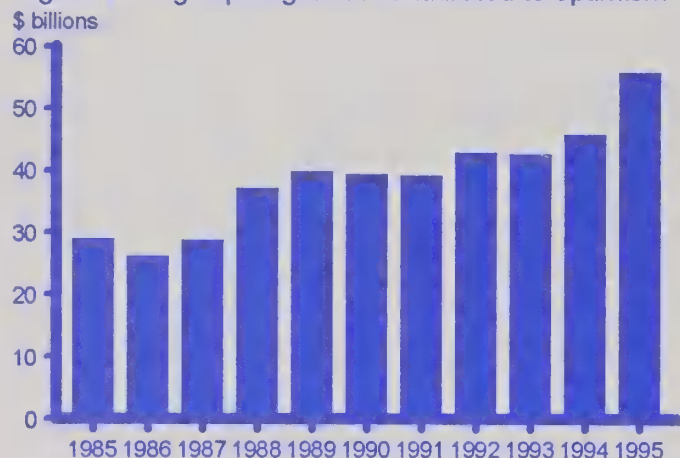


Figure 9 — Ag export growth contributed to optimism



steady growth of indebtedness that began in 1993. Annual changes during 1994-96 reflect the largest annual percentage increases in outstanding loans balances since 1982.

The recent rise in debt does not signal pending financial distress in the farm sector. The more favorable interest rate environment projected for 1997 is expected to lessen the impacts of declining net cash income and growing indebtedness. Total interest expenses are anticipated to increase slightly in 1997, as the lower rates offset the rise in debt. It appears that a larger number of operators will have less income available to meet principal and interest payments on their loans, and those payments will likely be slightly higher for the average farm operator. Those experiencing reduced income, particularly dairy and other livestock producers, may experience difficulty in meeting their debt service requirements.

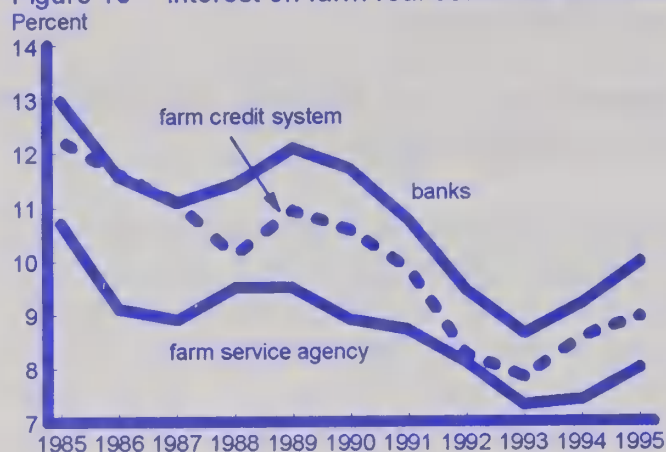
The restrained use of credit provides a valuable source of capital that can lead to improved productivity and higher profits. The recent rise in loan balances can be at least partially attributed to farmers' positive view of the future of the sector, as evidenced by the strong farmland markets of the last few years. While many farmers have financed expansions with cash purchases of adjacent properties, farm mortgage debt levels are expected to rise over 2 percent in 1997, following a 3-percent rise in 1996.

Total nonreal estate debt is anticipated to increase over 3 percent in both 1996 and 1997, as borrowing to finance brisk machinery sales is expected to continue. The number of tractors purchased, forecast to increase 8 percent in 1996, could rise another 3 to 5 percent in 1997. Farmers appear willing to borrow to replace their capital stock. Despite the expected decline in incomes, farmers' demand for machinery is anticipated to be steady to slightly higher in 1997, influenced by availability of credit at relatively low interest rates.

Debt Growth Rate Still Moderate by Historic Standards

The recent increases are relatively small compared with annual debt changes during the 1970's, when outstanding loan balances grew at an average annual rate of over 12 percent. The rapid growth in use of debt financing during that period is an

Figure 10 -- Interest on farm real estate loans is lower



often-cited cause of the farm financial crisis that emerged in the mid-1980's.

Expanded use of credit raised total farm business debt from less than \$50 billion in 1970 to a high of almost \$194 billion in 1984. Debt levels declined during the subsequent financial crisis, falling to \$137 billion by the end of 1989. Yearend loan balances ranged from \$137 billion to \$139 billion from 1989 through 1992, trending slowly upward at an average annual rate of less than 1 percent. Farmers appear to have used relatively high incomes generated during 1989-92 to minimize borrowing and improve their balance sheets.

The debt growth rate began a modest acceleration after 1992, rising to almost 2 percent in 1993. The rate of increase in total farm business debt has averaged about 3 percent during 1994-1997. Debt levels at yearend 1997 are expected to stand about \$20 billion above those of 1992, up almost 15 percent. However, yearend 1997 debt is expected to stand about \$34 billion below its 1984 peak.

Farm Credit System Loans Rise

Farm business debt owed to the Farm Credit System (FCS) is forecast to increase about 4 percent in 1997, following a rise of more than 5 percent in 1996. FCS mortgage debt is projected to rise over 5 percent in 1996, a significant gain for the first time in over a decade. System real estate debt increased from less than \$20 billion at the end of 1977 to more than \$46 billion by yearend 1984. FCS experienced substantial loan losses and borrower flight during the mid-1980's, and farm mortgage debt subsequently fell to \$25 billion by 1992. As commercial banks gained real estate lending market share, FCS farm mortgage debt stagnated at around \$25 billion. Projections for 1996 indicate that yearend FCS farm mortgage debt will rise above \$26 billion for the first time since 1989.

Preliminary projections indicate that FCS nonreal estate loans will increase over 8 percent in 1997, following gains of 10 percent in 1995 and 12 percent in 1994. FCS nonreal estate debt had experienced a surge and decline similar to that of mortgage lending, as it rose from about \$13 billion in 1977 to over \$21 billion in 1981, then fell to less than \$9 billion in 1988. FCS nonreal estate debt is projected at almost \$14 billion by the end of 1996.

Table 3--Farm debt, December 31, selected years, 1984-97F.

Lender	1984	1988	1992	1995	1996F	1997F
			-----Million dollars-----		--Billion dollars--	
Real estate	106,697	77,833	75,421	79,287	82	81 to 85
Farm Credit System	46,596	28,445	25,408	24,851	26	26 to 28
Farm Service Agency 1/	9,523	8,980	6,394	5,055	5	3 to 5
Life insurance companies	11,891	9,039	8,765	9,092	9	8 to 11
Commercial banks	9,626	14,434	18,757	22,277	23	24 to 26
CCC storage facility	623	21	2	*	*	*
Individuals & others	28,438	16,914	16,095	18,012	18	18 to 20
Nonreal estate	87,091	61,734	63,613	71,482	74	74 to 78
Commercial banks	37,619	28,309	32,912	37,748	38	38 to 40
Farm Credit System	18,092	8,766	10,346	12,472	14	14 to 16
Farm Service Agency 1/	13,740	12,899	7,143	5,092	5	4 to 6
Individuals & others	17,640	11,760	13,230	16,170	17	17 to 20
Total debt	193,788	139,567	139,052	150,769	155	156 to 162
Farm Credit System	64,688	37,211	35,753	37,324	40	40 to 44
Farm Service Agency 1/	23,263	21,879	13,538	10,147	9	8 to 11
Commercial banks	47,245	42,742	51,669	60,025	61	61 to 64
Life insurance companies	11,891	9,039	8,765	9,092	9	8 to 11
Individuals & others	46,701	28,694	29,327	34,182	36	36 to 39

1/ Formerly Farmers Home Administration.

Farm business debt outstanding as of December 31. * - Less than \$500,000.

F - Forecast.

During the period of relatively slow growth in loan volume prior to 1995, FCS institutions streamlined through mergers and profited from improved net interest margins. They currently appear to be regaining market share and are well positioned to be a competitive force in farm credit markets in the future.

Banks' Growth in Farm Loans Slows

Farm debt held by banks is expected to increase about 1 percent in 1997, after rising of 2 percent in 1996. Bank debt increased 46 percent during 1988-1995, rising almost \$19 billion. Farmers appear to be applying a portion of the high 1996 cash incomes to their existing bank debt. Nonreal estate farm loan balances are projected to rise less than 1 percent in 1996, while loans secured by farmland are expected to increase by over 4 percent.

Agricultural banks enter 1997 well capitalized and report ample funds to meet the credit needs of qualified borrowers. However, through midyear 1996, agricultural banks reported a slight rise in delinquencies and charge-offs of nonreal estate debt. While these increases reflect delayed planting and other weather-related problems, bank nonreal estate delinquencies and charge-offs are both about one-third of their 1989 levels. The rise in charge-offs also reflects a movement by banks to quickly resolve problem loans. Otherwise, banks are reporting consistent earnings and are well capitalized to deal with borrower difficulties.

Bank officers responding to surveys conducted by various Federal Reserve Banks indicate that problems might be building in the areas served by the Kansas City and Dallas Federal Reserve Districts. Bankers in these areas report lower loan repayment rates and higher numbers of renewals and extensions. These bankers also report that demand for loans and fund availability are generally strong. These factors, together with the current projections for relatively low net income, suggest that some farmers may experience repayment difficulties in 1997.

Banks report a continuing rise in loan-to-deposit ratios, which averaged 0.665 at mid-1996. This measure, up from 0.55 during 1990-92, has reached its highest level since the early 1980's. Rising loan balances and high loan-to-deposit ratios in some Midwestern banks have been offered as evidence of a likely tightening of credit in the near future. However, these factors also indicate the recent strength of both farmers' loan demand and bankers' willingness to provide credit. Further increases in the loan-to-deposit ratios might lead to reduced farm credit availability, as some banks reserve their more restricted supply of loanable funds for their most creditworthy borrowers.

Farmers' Use of Repayment Capacity To Rise in 1997

Farmers are expected to use their available credit lines more fully in 1997. Lenders generally require that no more than 80 percent of a loan applicant's available income be used for repayment of principal and interest on loans. For farm op-

Interest Expense To Increase Just Marginally in 1997

The expected slow-growth, low-inflation economy of 1997, while likely to generate lower interest rates, is not expected to produce a simultaneous proportional drop in farm interest expenses.

Total farm business debt is expected to exceed \$155 billion by the end of 1996. Theoretically, a 100-basis-point decrease in market interest rates would suggest that interest expenses could fall by almost \$1.5 billion, increasing net farm income by that amount. However, the actual decrease in farm business interest expenses is expected to be substantially less.

Changes in current market interest rates are not reflected immediately in farm interest expenses due to a variety of factors. First, interest rates on new agricultural loans do not respond instantaneously to changes in general market interest rates. ERS research suggests that changes in the 3-month T-bill rate produce changes in commercial bank interest rates on new farm loans, but the change is less than proportional and occurs with a lag of about one quarter.

Additionally, these farm interest rate responses to market rate changes refer to rates on new loans. Interest expenses are based on average interest rates on all loans outstanding, rather than rates on new loans only. While about 75 percent of all bank farm loans are made on variable interest rates, such loans can only periodically be adjusted to reflect new market rates. There is a lag between the date of the rate changes for new loans and the adjustment date of the variable rate loan.

erators, this income available for debt service (measured as net cash income plus interest) can be used to determine the maximum amount of loan payment the farmer could make. Given current market interest rates and an established repayment period, the maximum debt that the farmer could carry with this loan payment can be determined. Using current bank interest rates and a 7-year repayment period, maximum feasible debt conceptually measures the line of credit that could be available to farmers.

Farm debt repayment capacity use (actual debt expressed as a percentage of maximum feasible debt) effectively measures the extent to which farmers are using their available lines of credit. This ratio indicates that, in 1997, farmers are expected to use almost 60 of the debt that could be supported by their current incomes. Use of debt repayment capacity rose from 45 percent in 1993 to 58 percent in 1995. Despite the 1996 rise in farm business debt, high net cash income and lower interest rates lowered use of debt repayment capacity use to 51 percent. Favorable effects of expected lower interest rates in 1997 will not be sufficient to offset the combined effects of rising debt and lower net cash income. Use of debt repayment capacity is expected to reach its highest level since 1986.

Figure 11 -- Debt capacity utilization to rise in 1997

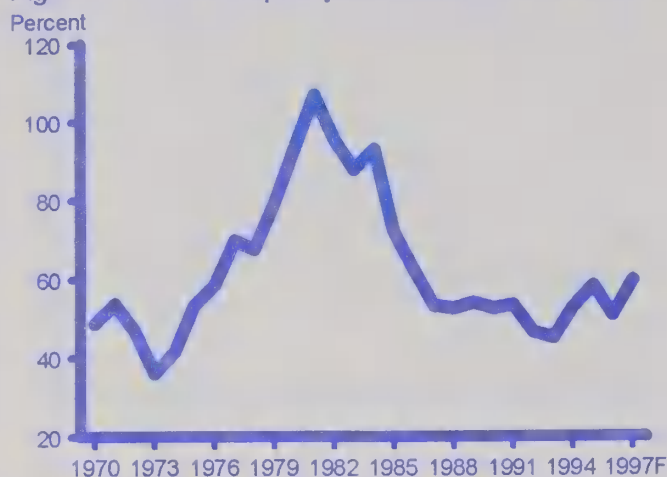
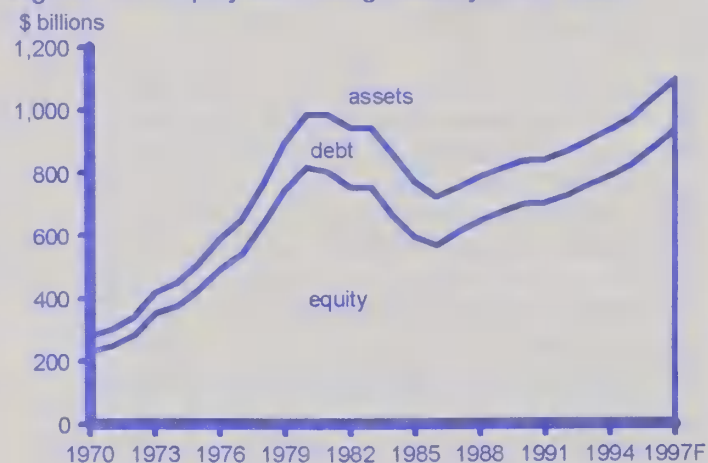


Figure 12 -- Equity increasing steadily since 1986



Farm Sector Equity Steadily Increasing

Because asset values are expected to rise more rapidly than debt, there will be considerable gains in the nominal value of farm equity in 1997.

Real farm equity in 1997 (nominal value deflated by the 1992 GDP price deflator) is forecast at \$830.9 billion. U.S. farm sector equity fell from a peak of \$816 billion in 1980 to \$568 billion in 1986. Although farm sector equity (in nominal dollars) has risen above this peak, farm sector wealth is still \$520 billion below the inflation-adjusted value of farm equity in 1980.

Solvency Ratios Favorable for 1996 and 1997

The debt-to-asset ratio measures debt against farm business assets, indicating overall financial solvency. The debt-to-asset ratio is forecast to be 14.6 percent in 1997, compared with 15.0 in 1996. The debt-to-equity ratio is forecast to be 17.0 percent in 1997, compared with 17.7 in 1996. Solvency indicators remain favorable for the farm sector as a whole.

Rising Profitability of Farm Sector Investments

The rates of return on farm assets and on farm equity are estimates of the profitability of farm sector investments. Rates of return on farm assets and equity are expected to rise in 1996. Total returns on farm business assets (including capital gains) are estimated at 7.2 percent in 1996 (with 4.2

percent growth in current income and 2.9 percent growth in capital gains). Rising farm sector asset and equity values and lower farm income suggest slightly lower rates of return on farm assets and equity in 1997. Total returns on farm business assets are forecast at 3.6 percent in 1997, reflecting slower farm asset appreciation.

Key Financial Ratios Fall

Net cash flow expands on net cash income to account for both internal and external sources of funds, and thus provides a

broader indication of the resources available to farm businesses to invest in the sector, and to meet current debt obligations. The ratio of debt-to-net cash flow fell from 3.1 in 1995 to 2.6 in 1996, but is forecast to rise to 2.9 in 1997. The ratio of debt-to-returns to farm assets rose to 9.9 in 1995 but fell to 3.7 in 1996 and is forecast at 3.6 in 1997.

On average, the profitability of farm sector investments (including capital gains) is expected to be slightly lower than in 1996.

Costs of Producing Major Field Crops To Rise Moderately

Seed prices will rise, while agricultural chemical prices decline.

The cash costs of producing major field crops in 1997 are forecast to rise 1-1.5 percent from 1996. The overall Prices Paid Index for farm production items (crop and livestock inputs) is forecast up 1.8 percent. However, this average is influenced by a 7.8-percent decline in feed costs, which have no effect on crop production. Among crop inputs, seed prices are projected to rise as much as 6 percent from 1996, primarily for hybrid corn. Costs for labor wages, tractors and machines are projected up 3 percent. Fuel, fertilizer and interest costs could increase up to 2 percent, while costs of agricultural chemicals are forecast to decline slightly.

Cash costs are forecast to increase \$1-\$5 per planted acre in 1997. The mix of inputs will determine which crops are most affected by rising input prices. The increase will be higher for crops such as rice and cotton that use more fuels and labor.

Cash costs are expected to rise \$5 per acre for cotton and rice, while the increase will be only \$1 per acre for small grains like wheat, oats, and barley. Economic production costs, which reflect the average long-run costs to keep an acre of land in production, are forecast from slightly down for wheat and oats to rise 1.4 percent for cotton.

These costs-of-production forecasts are at the national level and will differ considerably among individual farmers. The forecasts include the costs of both the farm operator and any landlords, but exclude the direct costs associated with government commodity programs. ERS' time series costs of production through 1995 can be found on ERS' Internet home page at www.econ.ag.gov. Follow the links to the Briefing Room for Farm Business Economics and then to Costs and Returns.

Table 4--Production costs for major U.S. field crops, 1997 1/

Item	Corn	Sorghum	Barley	Oats	Wheat	Rice	Soybeans	Cotton
Per planted acre:								
	Dollars							
Total cash costs	215	127	112	77	96	444	125	379
Variable cash costs	165	88	78	51	68	356	79	316
Seed	26	7	8	8	8	21	15	17
Fertilizer	58	27	21	16	22	57	10	47
Chemicals	27	15	9	2	6	66	25	51
Custom operations 2/	9	4	5	4	6	76	4	83
Fuel, lube, and electricity	19	14	13	7	9	62	8	41
Repairs	16	13	14	11	13	29	11	30
Hired labor	8	9	5	2	4	34	6	41
Other	*	*	2	0	*	11	*	6
Fixed cash costs	50	38	35	26	29	88	46	63
General farm overhead	13	11	8	6	7	31	12	19
Taxes and insurance	21	15	14	15	11	31	20	25
Interest	16	13	12	5	11	26	14	20
Economic (full ownership) costs	345	208	192	147	171	657	229	532
Variable cash costs	165	88	78	51	68	356	79	316
General farm overhead	13	11	8	6	7	31	12	19
Taxes and insurance	21	15	14	15	11	31	20	25
Capital replacement	34	29	29	19	24	61	24	57
Operating capital	4	2	2	1	2	10	2	8
Other nonland capital	14	15	15	12	12	22	14	20
Land	68	29	38	29	39	120	58	52
Unpaid labor	26	20	7	15	9	26	20	35
Change from 1996 forecast:								
	Percent							
Total cash costs	1.3	0.9	1.1	1.5	1.1	1.0	1.1	1.4
Variable cash costs	1.7	1.3	1.6	1.8	1.6	1.2	1.7	1.6
Fixed cash costs	0.1	0.1	-0.0	0.7	-0.1	0.5	0.3	0.3
Economic (full ownership) costs	0.7	0.5	0.6	-0.2	-1.0	1.1	1.2	1.4
Break-even price:/3								
	Dollars							
Variable cash costs	1.36	1.35	1.32	.88	1.82	6.17	2.15	.49
Cash costs	1.78	1.93	1.91	1.33	2.58	7.69	3.40	.59
Economic costs	2.84	3.18	3.26	2.53	4.57	11.37	6.24	.83

Totals may not add due to rounding. * = less than 50 cents.

1/ Forecasts are as of 10/24/96 and exclude direct effects of government programs.

2/ Includes custom drying for corn and rice and ginning for cotton.

3/ Based on 5-year average yield and price at \$/bu. for corn, wheat, soybeans, sorghum, oats, barley or \$/cwt for rice or \$/lbs. for cotton.

The Domestic Economy in 1996 — Moderate Growth and Modest Inflation

Moderate domestic growth, modest inflation, and relatively strong foreign economic growth, especially in developed countries, supported the sharp rise in farm income in 1996. However, the appreciating dollar and substantial increases in energy prices kept net farm income from rising even more. Interestingly, a downturn in energy prices and a modest depreciation of the dollar, in a very favorable macroeconomic environment, will mitigate the expected fall in net farm income in 1997. A strong 1997 rural economy could support good farm household off-farm income growth and offset the impact of 1997's lower expected farm income on the farm household.

The U.S. economy is expected to grow roughly 2.4 percent in real terms for all of 1996, with growth slowing significantly from the 3.3-percent rate of the first half. Strong consumption growth, especially for consumer durable goods, and strong business investment on plant and equipment buoyed the first half. Strong residential construction and government spending growth also contributed to the first half's strong growth.

Slowing growth in consumer spending triggered the second-half slowdown, especially in consumer durable goods spending, as consumer spending grew less rapidly than disposable income. Slower growth in consumer durable spending in the second half reflected (1) high consumer debt burdens restraining increased consumer debt loads, (2) slow auto sales as strong auto sales in the first half greatly reduced pent up demand for cars and vans, and (3) reduced demand growth for new furniture and appliances reflecting a slower pace of residential construction. Slower government spending growth also contributed to moderating GDP growth in the second half.

The rising real trade deficit was a drag on U.S. growth for the first three quarters of 1996. The trade deficit rose \$30 billion in the first half of the year, reaching \$115 billion in the second quarter. Stronger growth in the United States compared with its major trading partners in 1996 and the strengthening dollar during late summer 1995-spring 1996 brought a deteriorating U.S. trade balance for the first two quarters. The large \$33 billion inventory rebuilding in the United States in the third quarter was a major factor in the 10.7-percent third quarter rise in total goods imports as U.S. firms increased imports of consumer and industrial products to rebuild depleted inventories.

Inflation remained low in 1996. As measured by the GDP chain weighted deflator, prices rose only 2.1 percent in the first three quarters of 1996 while finished producer goods and consumer goods prices rose 2.6 and 3.2 percent respectively. Inflation has been more pronounced for food and energy prices, pushing up PPI and CPI inflation, which weight food and energy prices more heavily than the GDP deflator.

Long-term interest rates have been very volatile in 1996. Yields on 30-year Treasury bonds and conventional mortgages began the year at roughly 6.0 and 7.1 percent respectively, but by early September had risen by roughly 120 basis points. The rise in longer-term interest rates primarily reflected stronger than anticipated U.S. growth in the first half, increased public uncertainty concerning the eventual elimination of long-term Federal deficits, and an expected tightening of monetary policy. During early September to mid-November, long-term interest rates fell roughly 70 basis points in response to slowing economic activity, continued low inflation, and the absence of any tightening by the Federal Reserve. Despite the interest rate volatility, credit conditions (as reflected in the willingness of banks to lend to small businesses) were good.

Energy prices rose sharply during 1996. The spot price of West Texas Intermediate crude oil (WTI) began the year at \$17 per barrel and rose to \$25 per barrel by late October. By late November the WTI price fell below \$23 per barrel. Natural gas wellhead prices rose almost 30 percent in 1996. The pickup in world economic growth, very low crude inventories, a bad 1995-96 winter, and only minimal increases in supply drove up crude and natural gas prices. The brief period of \$25 per barrel crude oil reflected concern about the political situation in the Middle East and the severity of the coming winter.

The Farm and Rural Economy Impacts of 1996's Economy

While the world oil price rose about 15 percent in 1996 versus 1995, the effective agricultural fuel price rose less than that. The main reason is that more than half of the fuel used in farming is used in the first third of the year, before most of the crude price increase took place. As a result, the effective agricultural fuel price went up about 10-11 percent in 1996. Although natural gas prices rose 30 percent, market conditions prevented an immediate pass-through of the cost of fertilizer production to farmers. (Fertilizer prices did rise almost 5 percent for the year after an 11-percent rise in 1995.)

The volatility of interest rates did not appreciably hurt the farm sector as most farm loans are negotiated early in the year before the run up in long-term interest rates. Further, as the willingness and ability of banks to lend has increased, farm loans have become more available. The appreciation of the dollar was more than offset by strong growth in Latin America and Asia. As developing countries have income to invest in ports, roads, and electric power facilities, the potential for U.S. food exports increases by more than the direct effect of consumers' income, allowing more consumption of higher quality or a larger quantity of food. The growth of infrastructure has been quite important in the development of U.S. food export channels in Asia, where both income and population have been growing rapidly.

The rural economy has benefited from a tight labor market that generated higher wages in some rural industries and a continued increase in jobs. Further, readily available credit has benefited rural entrepreneurs, further stimulating rural job growth. The strong goods export growth has also aided rural job creation. There are now more manufacturing jobs in rural areas than at the peak of the last business cycle, a situation that is not true for the economy as a whole. As a result, off-farm income prospects improved for farm families in 1996.

Moderate Growth, Inflation and Interest Rates Likely in 1997

Real U.S. growth is expected to slow slightly in 1997 relative to 1996. Higher real long-term interest rates generated in 1996 will tend to slow the economy in 1997. Rising consumer debt burdens are expected to constrain consumer spending. Very strong business investment during 1993-96 substantially increased estimated industrial productive capacity, reducing the need for future heavy business investment. Declining Federal spending will also moderate growth in 1997. From the supply side, tight labor markets will constrain the hiring of new workers and productivity growth. On the positive side, U.S. economic growth in 1997 should be aided by a moderate pickup in U.S. exports resulting from stronger foreign growth, especially among developed countries.

Inflation will pick up slightly in 1997 as tight labor markets slightly accelerate wage increases. Additional mild upward inflationary pressure is expected from a mild weakening of the dollar and stronger overall growth in developed countries that reduces overall excess manufacturing capacity abroad. Excess manufacturing capacity abroad in the 1990's has encouraged lower U.S. inflation by increasing foreign competition for U.S. manufactured goods in the United States.

The slower growth in consumer credit in recent months reflects both slower growth in consumer credit demand and tighter credit standards for consumer loans from commercial banks. From mid-1995 to mid-1996 personal bankruptcies rose 26 percent, while the percentage of uncollateralized loans to individuals that have been written off as uncollectible has risen from 1.6 percent in mid-1995 to 2.2 percent in mid-1996. In response to higher loan defaults and increased personal bankruptcies, commercial banks have tightened

credit standards on consumer loans. Consumer credit growth is expected to slow in the first half of 1997.

The developed economies, Latin America, and Eastern Europe are expected to grow faster than in 1996. Slower growth in Asia, the Middle East, and the United States will moderate the increase in world growth. In the fall of 1996, the dollar weakened slightly due to rising trade deficits and low real U.S. interest rates and equity prices. The higher world growth in 1997 should increase foreign interest rates and somewhat lower the real difference between U.S. and foreign interest rates and lower the value of the dollar relative to the mark and yen. The Canadian dollar is expected to appreciate relative to the U.S. dollar. With a modestly weakening dollar and a pickup in world growth, exports of U.S. goods and services are expected to be stronger than in 1996.

Crude oil and natural gas prices are expected to drop about 5 percent in 1997. The refiners' acquisition cost of imported crude oil for 1996 is expected to average about \$21 per barrel (this price index typically is \$1 to \$2 per barrel lower than the average WTI spot price). The U.S. Energy Department and the futures markets expect the average crude price to average about \$20 per barrel in 1997. As inventories are replenished and the demand for fuel oil subsides at the end of the heating season, market tightness will subside and crude prices will drop. The current price reflects an exaggeration of the normal seasonal pattern in fuel prices because of tight current crude and heating oil stocks. A normal winter should enable crude oil stocks to rise to more normal levels, bringing lower crude oil and product prices.

Rural America To Benefit from Slower Growth In 1997

The moderate slowdown in growth in 1997 from the unsustainable strong growth in the first half of 1996 will definitely benefit the rural economy. Low interest rates, low inflation, and the strong banking system (with strong profitability, high capital ratios and low aggregate default rates) brought by the recent growth slowdown are important to continued growth in the economy. Moderate GDP growth without sizable swings in interest rates and inflation promotes saving and investment. Greater business investment raises the Nation's capital stock and productivity.

But low interest rates and the sound banking system have special benefits for rural economies. First, rural America produces many relatively expensive manufactured consumer and industrial goods whose demand is stimulated by low borrowing costs and ready credit availability. Second, moderate interest rates and a healthy banking system are especially helpful for small business firms that dominate the rural business environment. Small business firms are more dependent upon commercial bank loans, sensitive to borrowing costs, and are more dependent upon internally generated funds to fund investment. Third, low interest rates and moderate inflation lower the risk premium demanded by banks on long and intermediate business and farm loans.

Further, the weak dollar will benefit rural economies that tend to be dependent on export growth, especially in manufacturing

and mining. While the job growth prospects for the overall economy are modest, the nature of the moderate growth period for 1997 should imply moderate employment growth for rural economies. Also, the increase in the minimum wage will raise the average wage in rural areas more than in the rest of the economy. As a result, off-farm income prospects in 1997 should be good and will offset the impact of lower farm income on farm families.

Good Macroeconomic Environment Moderates Expected Decline in 1997 Net Farm Income

Macroeconomic conditions will moderate the drop in farm income. First, except for fertilizer and fuel prices, manufactured farm inputs prices will rise less rapidly than overall wholesale prices. Fertilizer prices are expected to rise 3.0 percent as the higher natural gas prices of 1996 are passed on. Fuel expenses will be up as the prices of diesel, gasoline, and liquefied petroleum gas will be quite high in the first third

of the year and retail product margins on those products are expected to rise above currently depressed rates. So a combination of higher product prices to crude oil margins and the fact that fuel use and sales are concentrated in the early part of the year will increase fuel expenses 5 percent. With stable interest rates, farm interest rates should be about at 1996 levels for both real estate and nonreal estate loans. Overall, farm expenses should be up less than 1.0 percent.

The expected drop in the value of the dollar and pickup in world growth will keep farm exports from dropping more sharply than forecast. Continued strong growth in Asia and Latin America is especially supportive of high-valued farm exports. As over 66 percent of off-farm income for farm households is from non-farm labor and small business profits, the expected strong rural economic situation will cushion the fall in net farm income. Expected strong off-farm income, favorable credit conditions, and high, albeit declining, farm income support a rise in farm asset prices.

Farm Operators Are Satisfied With Their Economic Situation and Community

by Judith Z. Kalbacher and Robert A. Hoppe

Abstract: Farm operators, generally speaking, are satisfied with their overall household economic situation and with their communities, but they are more satisfied with their communities than with their economic situation. Although operators of commercial farms generally are less satisfied than noncommercial farmers, the data suggest they still are satisfied.

Keywords: Farm operators, farm operator households, satisfaction

At least one group of rural Americans is satisfied with its current economic situation and where it lives. In a recent national survey of farming operations, farm operators stated that they generally are satisfied with both their overall household economic situation and their communities, although they are somewhat more satisfied with their communities than with their economic situation. They express more satisfaction with their involvement in farming than with farming as a source of income, suggesting that farmers get more from farming than just income.

How To Measure Farm Operator Satisfaction

Information about farm operator satisfaction was obtained from a special set of questions on the Department of Agriculture's 1993 Farm Costs and Returns Survey. The information was collected from a sample representing the Nation's 2 million farms (see box on Farm Costs and Returns Survey).

Farm operators were asked about their satisfaction with various aspects of their household economic situation and their communities. More specifically, operators were asked about their levels of satisfaction with their household economic situation based on four components of their income and overall standard of living:

- Farming/ranching as a source of income
- Off-farm work as a source of income
- Other off-farm income, such as pensions, Social Security, and investment income
- Standard of living (housing, car, furniture, recreation, etc.).

Operators were also asked questions about their satisfaction with the following four aspects of their communities:

- Their community as a place to live
- Their housing
- Their involvement with farming/ranching
- Off-farm job opportunities.

Responses for both groups of questions were coded on a scale of 1 to 5:

1 = Very satisfied

2 = Somewhat satisfied

3 = Undecided

4 = Somewhat dissatisfied

5 = Very dissatisfied.

An overall score was computed for each of the two groups of questions, representing overall satisfaction with household economic situation and overall community satisfaction, respectively. These overall scores were derived for each observation as the average of the four scores for each group of questions, based on observations with responses to all four component questions.

Farm Operators Respond About Their Economic Satisfaction.

The average total score for all farm operators was 2.3, indicating that farmers were only slightly less than "somewhat satisfied," on average, with their economic situation (table 1). The majority of respondents was either somewhat satisfied (46 percent) or very satisfied (9 percent) (fig A-1.).

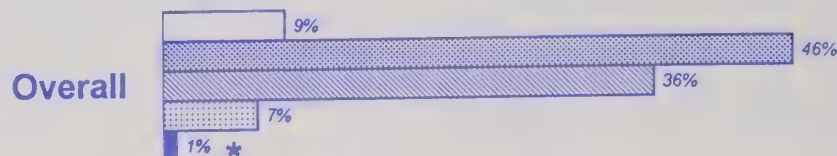
Among the individual economic components, farm operators in general were most satisfied with their standard of living, with an average score of 1.7 (table A-1). Of those responding, 48 percent indicated that they were very satisfied and 39 percent indicated that they were somewhat satisfied with their standard of living (fig. A-1).

Farmers expressed the most dissatisfaction with farming as a source of income, with an average score of 2.8 (table A-1) and more than one-third of the respondents reported they were either very or somewhat dissatisfied (fig. A-1). The next highest levels of dissatisfaction were with off-farm work and other off-farm income as a source of income, which received average scores of 2.2 and 2.5, respectively. However, these relatively high scores resulted mainly from the large percent-

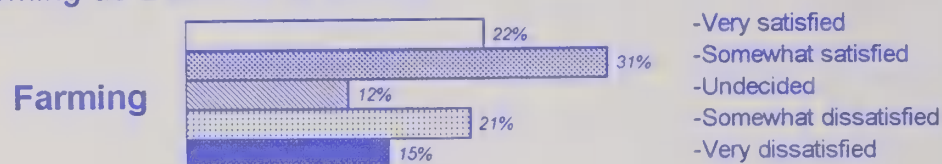
Figure A1

Levels of satisfaction with income, 1993

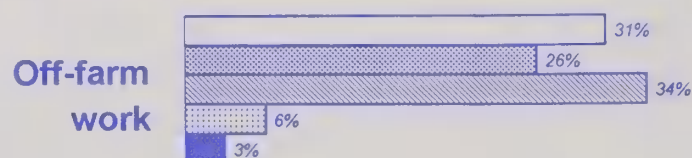
The largest share of respondents to all four questions was, overall, somewhat satisfied



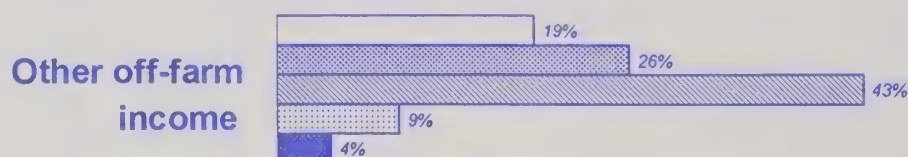
More than one-third of respondents reported that they were either very or somewhat dissatisfied with farming as a source of income



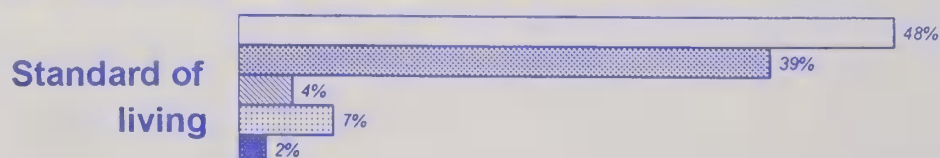
Only about one out of every ten respondents expressed dissatisfaction with off-farm work as a source of income



Dissatisfaction with other off-farm income, such as pensions, Social Security, and investments, was also comparatively low



Most respondents expressed satisfaction with their standard of living, considering such items as housing, car, furniture, and recreation



*Relative standard error is greater than 25 percent.

Source: Economic Research Service, compiled from the 1993 Farm Costs and Returns Survey.

Table A1--Operator satisfaction with household economic situation, 1993

Item	Farming as source of income		Off-farm job as source of income		Other off-farm income		Standard of living		Total score
	Average score ¹	RSE ²	Average score ¹	RSE ²	Average score ¹	RSE ²	Average score ¹	RSE ²	
All operator households	2.8	1.5	2.2	1.4	2.5	1.2	1.7	1.7	0.9
Household income class:									
Less than \$10,000	2.7	3.6	2.5	2.6	2.6	2.5	1.9	3.6	2.2
\$10,000-\$24,999	2.8	3.1	2.4	2.8	2.5	2.6	1.9	4.1	2.1
\$25,000-\$49,999	2.8	2.4	2.2	2.5	2.5	2.1	1.7	2.5	1.4
\$50,000 and more	2.8	2.9	2.0	3.1	2.5	2.5	1.6	3.4	1.9
Size class of farm:									
Noncommercial	2.8	1.7	2.1	1.8	2.5	1.5	1.7	1.9	1.1
Commercial	2.6	2.7	2.6	2.1	2.7	1.8	1.9	3.6	1.6
Farm dependency category:									
Positive household income---									
Loss from farming	3.0	2.0	2.0	2.3	2.5	1.8	1.7	2.4	1.4
0-24 percent from farming	2.8	3.2	2.2	3.2	2.4	2.9	1.7	3.5	2.1
25-49 percent from farming	2.4	5.9	2.6	4.3	2.6	3.6	1.7	7.1	3.8
50-74 percent from farming	2.4	5.7	2.6	3.9	2.4	4.7	2.0	10.5	3.5
75 percent and more from farming	2.3	4.2	2.7	2.4	2.8	2.4	1.9	3.4	2.1
Negative household income	2.9	5.8	2.5	4.5	2.6	3.9	2.1	6.1	3.8

¹Computed as the average of scores ranging from 1 (very satisfied) to 5 (very dissatisfied), as defined in the text. ²The relative standard error (RSE) provides the means of evaluating the survey results. A smaller RSE indicates greater reliability of the estimate. Source: Economic Research Service, compiled from the 1993 Farm Costs and Returns Survey.

The Farm Costs and Returns Survey

U.S. farm operators are surveyed annually by the Department of Agriculture's Farm Costs and Returns Survey (FCRS). In the survey, operators provide financial and production information about their farms and selected information about their households. For 1993, usable data were collected from about 8,000 farms and ranches. The 1993 survey also included a set of questions that asked farm operators about their satisfaction with various aspects of their household economic situation and community.

Estimates based on a sample survey differ from what would have occurred if a complete enumeration had been taken. However, the relative standard error (RSE), a measure of sampling variability, is available from survey results. The RSE is the standard error of the estimate expressed as a percentage of the estimate. According to the guidelines for use of the FCRS, any estimate with an RSE greater than 25 percent must be identified. Estimates with RSE's that high are indicated in the tables and graphs. The standard error of the estimate can also be used to evaluate the statistical differences between groups. This article emphasizes differences between groups only when estimates were significantly different at the 95-percent level, unless noted otherwise.

The total income of farm operator households from the FCRS includes income from both farm and off-farm sources. Farm income to the household includes net cash farm income less depreciation, adjusted for the share received by the household of the primary operator in the case of multiple-household farms. Farm income to the operator household also includes any net income received by the household from other farm businesses, plus any wages or salaries paid to the operator and household members by the farm business. Off-farm income consists of the income that all farm household members received from other sources, including wages and salaries, the net income of any nonfarm businesses, interest and dividends, and all other cash off-farm income.

age of operators who were undecided about these two components (fig A-1). Only a small share of respondents expressed dissatisfaction with either component.

Not surprisingly, we found that operator satisfaction with their overall household economic situation (table A-1) was generally greater for households at the upper end of the income spectrum than for households at the lower end of the spectrum. Operators with households in the two highest categories were also more satisfied with off-farm work than with farming as a source of income. This may simply reflect their reliance on off-farm work for their livelihood. For example, 52 percent of operators with households in the highest income category reported a major occupation other than farming, and another

7 percent were retired. Only 40 percent reported farming as their major occupation. As a group, farm operator households depend heavily of off-farm income. (See the box on farm operator household income.)

Operators of noncommercial farms (sales less than \$50,000) were more satisfied with their household economic situation than were operators of larger, commercial farming operations (sales of at least \$50,000). Noncommercial farm operators expressed more satisfaction than commercial farm operators with each of the individual components of household economic situation, except for "farming/ranching as a source of income." As a group, households with noncommercial farms lost money farming, while households with commercial farms received about half of their income from farming. Hence, it is not surprising that noncommercial farmers would express less satisfaction than commercial farmers with farming as a source of income.

We also grouped farm operator households into categories based on the ratio of their farm income to total household income to see if differences in satisfaction exist among households by the degree of their dependence on farming. Six categories of farm operator households were created: five with positive household income and a sixth with negative household income, as shown in table A-1.

Four of the groups had an average total score of 2.3, or the same as the average for all operators. Farm operators with at least 75 percent of household income from farming (11 percent of farm households) or with negative household income (7 percent) expressed more dissatisfaction than average with their overall economic situation (table A-1). Farmers in the negative household income category also expressed significantly more dissatisfaction than average with off-farm work as a source of income and with their overall standard of living.

Farmers with at least 75 percent of household income from farming were more satisfied than average with farming as a source of income. But, they were less satisfied than average with income from off-farm sources. Still, these households had the highest average household income, \$68,600.

Most farm households were not heavily dependent on farm income, and the largest number of households (almost half) had positive household income and a loss from farming. These households averaged \$38,500 in household income in 1993. Although they were less satisfied than average with farming as a source of income, they were more satisfied than average with their income from off-farm work (table A-1). The large majority of these operators either had a major occupation other than farming (56 percent) or were retired (27 percent).

Community Satisfaction

Responses to questions about community satisfaction were analyzed by household income class, size of farm, and farm dependency (table A-2) to be consistent with the information presented earlier for economic satisfaction. In addition, community satisfaction was examined by metro-nonmetro status and county type, to see if satisfaction differed by type of

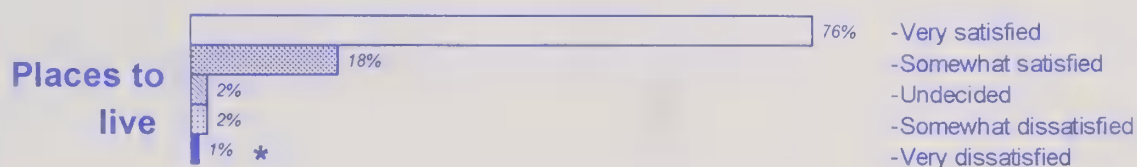
Figure A2

Levels of satisfaction with the community, 1993

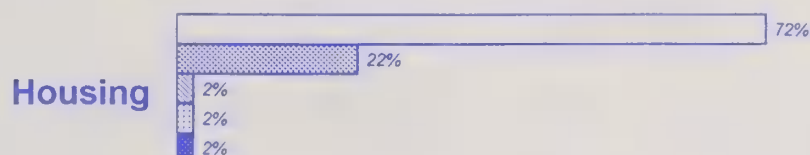
Most farm operators were very satisfied or somewhat satisfied with their communities overall



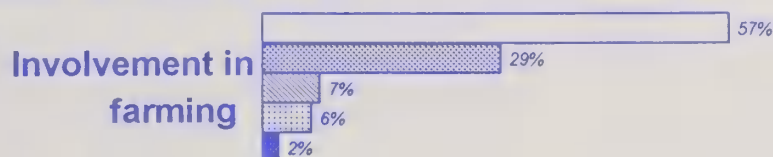
About three-fourths of operators were very satisfied with their communities as places to live . . .



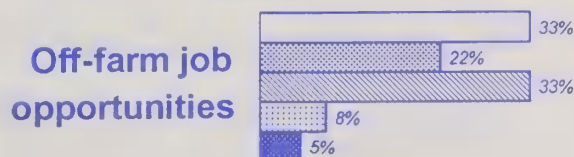
. . . and with their housing



About 86 percent of farm operators were very satisfied or somewhat satisfied with their involvement in farming



Most operators were very satisfied or somewhat satisfied with off-farm job opportunities. But, one-third were undecided



*Relative standard error is greater than 25 percent.

1/ "Somewhat dissatisfied" and "very dissatisfied" were collapsed into one category due to sample size considerations.

Source: Economic Research Service, compiled from the 1993 Farm Costs and Returns Survey.

Table A2--Operator satisfaction with community aspects, 1993

Item	Community as a place to live		Housing		Involvement in farming		Off-farm job opportunities		Total score	
	Average score ¹	RSE ²	Average score ¹	RSE ²	Average score ¹	RSE ²	Average score ¹	RSE ²	Average score ¹	RSE ²
All operator households	1.3	1.7	1.4	1.8	1.7	1.8	2.3	1.4	1.7	1.0
Household income class:										
Less than \$10,000	1.4	3.1	1.5	3.7	1.7	3.6	2.5	2.7	1.8	2.2
\$10,000-\$24,999	1.3	3.5	1.4	4.4	1.7	4.1	2.3	2.9	1.7	2.3
\$25,000-\$49,999	1.3	3.3	1.3	2.4	1.7	3.0	2.2	2.7	1.6	1.6
\$50,000 and more	1.3	2.9	1.4	3.9	1.6	3.5	2.2	2.9	1.6	2.1
Size class of farm:										
Noncommercial	1.3	2.1	1.4	2.0	1.7	2.1	2.2	1.8	1.6	1.2
Commercial	1.4	2.7	1.5	3.8	1.6	3.5	2.6	2.1	1.8	1.8
Farm dependency category:										
Positive household income---										
Loss from farming	1.3	2.6	1.4	2.1	1.7	2.3	2.1	2.3	1.6	1.5
0-24 percent from farming	1.3	3.9	1.5	5.4	1.8	4.7	2.3	3.4	1.7	2.8
25-49 percent from farming	1.3	5.2	1.3	4.3	1.9	7.3	2.5	5.4	1.8	4.1
50-74 percent from farming	1.4	6.3	1.3	4.8	1.4	5.9	2.5	4.8	1.7	3.7
75 percent and more from farming	1.2	3.1	1.4	6.3	1.4	3.4	2.6	2.6	1.7	2.2
Negative household income	1.4	4.5	1.5	6.2	1.6	6.7	2.7	4.2	1.8	3.4
Metro-nonmetro status:										
Metro	1.4	2.9	1.4	2.6	1.7	3.3	2.2	2.8	1.7	2.0
Nonmetro	1.3	2.0	1.4	2.3	1.6	2.2	2.3	1.6	1.7	1.2
Adjacent	1.3	2.5	1.4	2.3	1.6	2.6	2.3	2.5	1.7	1.5
Nonadjacent	1.3	3.2	1.4	4.2	1.7	3.4	2.4	2.4	1.7	1.9
County type:										
Farming dependent	1.3	3.9	1.5	6.5	1.7	5.6	2.6	3.3	1.8	2.8
Other nonmetro	1.3	2.3	1.4	2.3	1.6	2.3	2.2	1.9	1.6	1.3
Metro	1.4	2.9	1.4	2.6	1.7	3.3	2.2	2.8	1.7	2.0

¹Computed as the average of scores ranging from 1 (very satisfied) to 5 (very dissatisfied), as defined in the text. ²The relative standard error (RSE) provides the means of evaluating the survey results. A smaller RSE indicates greater reliability of the estimate. Source: Economic Research Service, compiled from the 1993 Farm Costs and Returns Survey.

community. (For definitions of metro-nonmetro status and county type see the box "Geographic Units.")

Responses to the survey questions about community satisfaction indicate that farm operators generally were satisfied with their communities (table A-2). About 33 percent of all operators were "very satisfied" and another 56 percent were "somewhat satisfied" with their communities overall (fig. A-2). This high level of satisfaction is consistent with polls on residence preferences in the United States. Opinion polls consistently show that people in the United States disproportionately favor less urbanized areas and believe rural areas and small towns are better places to live (Brown and Fuguitt, forthcoming).

Operators were actually more satisfied with their communities than with their economic situation. The average total score for economic satisfaction was 2.3 (table 1), which is between "somewhat satisfied" and "undecided," while the average total score for community satisfaction was 1.7 (table A-2), which falls between "very satisfied" and "somewhat satisfied." This same pattern—more total community satisfaction than total economic satisfaction—held true regardless of household income class, sales class of farm, or farm dependency category.

Farmers in general were more satisfied with their community as a place to live (average score of 1.3) and with their housing (average score of 1.4) than with their involvement in farming (average score of 1.7). Still, over half (57 percent) of operators were "very satisfied" with their involvement in farming (fig. A-2). Operators also were generally more satisfied with their involvement with farming (table A-2) than with farming as a source of income (table A-1), regardless of household income, farm sales, or dependency on farm income.

Operators were least satisfied with off-farm job opportunities (average score of 2.3), regardless of income levels, size of farm, dependence on farm income, and location (table A-2). The relatively high score for off-farm job opportunities resulted more from a large percentage answering "undecided" rather than large percentages expressing dissatisfaction (fig. A-2).

Noncommercial farm operators were more satisfied than commercial farm operators with their communities overall and with off-farm job opportunities. However, other apparent differences between the two groups shown in table A-2 are not statistically significant.

Only two statistically significant patterns appeared in the variation of the components of community satisfaction by farm dependency (table A-2). First, the two groups receiving at least 50 percent of their income from farming generally were slightly more satisfied with their involvement with farming than the other dependency categories. This appears reasonable, because these groups were the most involved in farming, as far as the origin of their income was concerned.

Second, operators with either a loss from farming or between 0 and 24 percent of total household income from farming were more satisfied with off-farm job opportunities than were

Farm Household Income Is Near the U.S. Average, But Comes Largely from Off-farm Sources

Average farm operator household income is about equal to that of all U.S. households. Operator household income from both farm and off-farm sources averaged \$40,223 in 1993, compared with an average of \$41,428 for all U.S. households. However, there was much variation in the level of income across individual farm households, just as there was for households nationwide. For example, 19 percent of operator households reported a household income of less than \$10,000 in 1993, as did 14 percent of all U.S. households. At the other extreme, about 25 percent of operator households reported household income of \$50,000 or more, compared with 29 percent of all U.S. households.

Operator households as a whole rely heavily on income from off-farm sources, and most households receive at least some off-farm income. Operator households averaged only \$4,815 from farming in 1993, and \$35,408 from off-farm sources. The low average income from farming is heavily influenced by the 1.5 million households associated with noncommercial farming operations (sales less than \$50,000 annually). In fact, the current farm definition—a place that sells (or normally would sell) at least \$1,000 of agricultural products—virtually guarantees that most farm households receive little or negative farm income.

the other income dependency categories. (Some of these differences were significant only at the 90-percent level.) Operators in these dependency categories were the most likely to have a nonfarm major occupation.

Operators' satisfaction with their communities also varied little by geographic location. Operators in farming-dependent counties were less satisfied with off-farm job opportunities than their counterparts in other nonmetro counties or in metro counties, but other apparent differences among the components of community satisfaction by location were not statistically significant (table A-2).

Discussion

Two findings from this analysis of farm operator satisfaction stand out. First, farm operators are somewhat more satisfied with their communities than with their economic situation. This high level of community satisfaction is consistent with national polls showing preferences for less urban or rural residences (Brown and Fuguitt, forthcoming). Second, regardless of their characteristics, operators generally expressed more satisfaction with their involvement with farming than with farming as a source of income. Farm operators apparently got more from farming than just income.

Geographic Units

Metropolitan (metro) areas are defined by the U.S. Office of Management and Budget (OMB) as counties with a large population nucleus (generally at least 50,000 inhabitants), plus adjacent counties that are socially and economically integrated with that nucleus. Metro designations as of 1993, when 813 counties were identified as metro counties (Butler and Beale, 1993), are used in this article.

Nonmetropolitan (nonmetro) counties are a residual, the part of the Nation lying outside metro areas. Nonmetro counties are diverse, however, and the 2,276 nonmetro counties can be categorized into smaller groups with common characteristics. This article presents information about 556 farming-dependent counties that depended on farming for at least 20 percent of earned income over the 3 years from 1987 to 1989 (Cook and Mizer, 1994).

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Appendix table 1--Farm income statements, 1992-97F

	1992	1993	1994	1995	1996F	1997F
Billion dollars						
Cash income:						
1. Cash receipts	171.3	177.6	180.8	185.8	200.4	193.7
Crops 1/	85.7	87.5	92.6	98.9	108.3	101.5
Livestock	85.6	90.2	88.1	86.8	92.0	92.1
2. Direct Government payments	9.2	13.4	7.9	7.3	7.8	7.6
3. Farm-related income 2/	8.2	9.1	9.2	10.9	11.2	11.4
4. Gross cash income (1+2+3)	188.7	200.1	197.8	203.9	219.4	212.7
5. Cash expenses 3/	133.2	141.2	147.4	155.1	162.0	161.9
6. NET CASH INCOME (4-5)	55.5	58.9	50.5	48.8	57.4	50.8
Farm income:						
7. Gross cash income (1+2+3)	188.7	200.1	197.8	203.9	219.4	212.7
8. Nonmoney income 4/	7.7	8.5	9.8	9.9	10.5	11.1
9. Inventory adjustment	4.2	-4.5	8.2	-3.4	4.9	0.5
10. Total gross income (7+8+9)	200.6	204.2	215.8	210.4	234.8	224.3
11. Total expenses	152.5	160.5	167.4	175.6	183.1	183.8
12. NET FARM INCOME (10-11)	48.0	43.6	48.4	34.8	51.7	40.4

F = forecast. Totals may not add due to rounding.

1/ Includes payments received from CCC for placements of crops under nonrecourse loans.

2/ Income from machine hire and custom work, forest product sales, custom feeding service fees, and other farm sources.

3/ Excludes expenses for on farm operator dwellings and noncash items such as capital consumption and perquisites to hired labor.

4/ Includes the value of home consumption of farm products plus imputed rental value of operator dwellings.

Appendix table 2--Deriving farm operator household income estimates from the Farm Costs and Returns Survey (FCRS) that are consistent with Current Population Survey (CPS) methodology, 1992-97F 1/

	1992	1993	1994	1995	1996F	1997F
	Dollars per farm					
Net cash farm business income 2/	11,320	11,248	11,389	11,218	n.a.	n.a.
Less depreciation 3/	5,187	6,219	6,466	6,795	n.a.	n.a.
Less wages paid to operator 4/	216	454	425	522	n.a.	n.a.
Less farmland rental income 5/	360	534	701	769	n.a.	n.a.
Less adjusted farm business income due to other household(s) 6/	961	872	815	649	n.a.	n.a.
	Dollars per farm operator household					
Equals adjusted farm business income	4,596	3,168	2,981	2,484	n.a.	n.a.
Plus wages paid to operator	216	454	425	522	n.a.	n.a.
Plus net income from farmland rental 7/	360	n.a.	n.a.	1,053	n.a.	n.a.
Equals farm self-employment income	5,172	3,623	3,407	4,059	n.a.	n.a.
Plus other farm-related earnings 8/	2,008	1,192	970	661	n.a.	n.a.
Equals earnings of the operator household from farming activities	7,180	4,815	4,376	4,720	5,266	4,115
Plus earnings of the operator household from off-farm sources 9/	35,731	35,408	38,092	39,671	40,886	42,259
Equals average farm operator household income comparable to U.S. average household income, as measured by the CPS	42,911	40,223	42,469	44,392	46,152	46,374
	Dollars per U.S. household					
U.S. average household income 10/	38,840	41,428	43,133	44,938	n.a.	n.a.
	Percent					
Average farm operator household income as percent of U.S. average household income	110.5	97.1	98.5	98.8	n.a.	n.a.
Average operator household earnings from farming activities as percent of average operator household income	16.7	12.0	10.3	10.6	n.a.	n.a.

F = forecast. n.a. = not available.

1/ The Current Population Survey (CPS), conducted by the Census Bureau, is the source of official U.S. household income statistics. The CPS defines income to include any income received in cash. In-kind receipts are excluded. The CPS definition departs from a strictly cash concept by including depreciation in the list of operating expenses that farm operators and other self-employed people subtract from gross receipts when they report net money income.

2/ A component of farm sector income. Excludes income of contractors and landlords as well as the income of farms organized as nonfamily corporations or cooperatives and farms run by a hired manager. Includes the income of farms organized as proprietorships, partnerships, and family corporations, which are all closely held by households.

3/ Consistent with the CPS definition of self-employment income, reported depreciation expenses are subtracted from net cash farm income. The Farm Costs and Returns Survey collects farm business depreciation used for tax purposes.

4/ Wages paid to the operator are subtracted here because they are not shared among other households that have claims on farm business income. These wages are added to the operator household's adjusted farm business income to obtain farm self-employment income.

5/ Gross cash rental income is subtracted here because net rental income from the farm operation is added below to income received by the household.

6/ More than one household per farm may have a claim on the income of a farm business. The national average is 1.1 households per farm sharing the income of a farm business.

7/ Includes net rental income from the farm business. Also includes net rental income from farmland held by household members that is not part of the farm business.

8/ Includes wages paid to other operator household members by the farm business and earnings (net income) from a farm business other than the one being surveyed.

9/ Income from wages, salaries, nonfarm businesses, interest, dividends, transfer payments, net rental income from nonfarm properties, etc.

10/ From the Current Population Survey.

Sources: U.S. Dept. of Agriculture, Economic Research Service, 1995 Farm Costs and Returns Survey, for farm operator household data. U.S. Dept. of Commerce, Bureau of the Census, Current Population Survey, for U.S. average household income.

Appendix ~~table~~ 3--Relationship of net cash to net farm income, 1992-97F

Item	1992	1993	1994	1995	1996F	1997F
Billion Dollars						
Gross cash income	188.7	200.1	197.8	203.9	219.4	212.7
Minus cash expenses	133.2	141.2	147.4	155.1	162.0	161.9
Equals net cash income	55.5	58.9	50.5	48.8	57.4	50.8
Plus nonmoney income 1/	7.7	8.5	9.8	9.9	10.5	11.1
Plus value of inventory change	4.2	-4.5	8.2	-3.4	4.9	0.5
Minus noncash expenses	15.2	15.2	15.4	15.7	16.1	16.8
Labor perquisites	0.5	0.4	0.4	0.6	0.6	0.6
Net capital consumption	14.7	14.8	15.0	15.1	15.5	16.2
Capital consumption exc. dwellings	16.1	16.2	16.4	16.5	17.0	17.7
- Landlord capital consumption	1.4	1.4	1.4	1.4	1.5	1.4
Minus operator dwelling expenses	4.1	4.1	4.6	4.8	5.0	5.1
Capital consumption	2.2	2.2	2.4	2.6	2.6	2.7
Interest	0.4	0.4	0.4	0.4	0.5	0.5
Property taxes	0.6	0.7	0.8	0.9	0.9	0.9
Repair and maintenance	0.6	0.5	0.6	0.5	0.5	0.5
Insurance	0.3	0.3	0.4	0.4	0.4	0.4
Equals net farm income	48.0	43.6	48.4	34.8	51.7	40.4

F = forecast.

1/ The value of home consumption and gross rental value of all dwellings.

Appendix Table 4--Cash receipts, 1992-97F

Item	1992	1993	1994	1995	1996F	1997F
Billion dollars						
Crop receipts 1/	85.7	87.5	92.6	98.9	108.3	101.5
Food grains	8.5	8.2	9.5	10.1	11.9	9.6
Wheat	7.2	7.5	7.9	8.8	9.9	8.1
Rice	1.3	0.7	1.7	1.3	2.0	1.5
Feed grains and hay	20.1	20.2	20.3	23.1	28.1	25.0
Corn	14.7	14.6	14.7	17.4	21.3	18.4
Sorghum, barley, and oats	2.3	2.0	2.0	2.1	2.8	2.6
Oil crops	13.3	13.2	14.7	14.8	17.4	16.7
Soybeans	11.6	11.8	12.8	13.2	15.9	15.2
Peanuts	1.3	1.0	1.2	1.0	1.0	1.0
Cotton lint and seed	5.2	5.2	6.7	7.6	6.8	6.4
Tobacco	3.0	2.9	2.6	2.6	2.9	2.9
Fruits and nuts	10.2	10.3	10.2	10.8	11.3	10.2
Vegetables	11.9	13.5	13.7	14.8	14.3	14.6
Greenhouse & nursery	9.3	9.6	10.0	10.4	10.8	11.6
Livestock receipts 2/	85.6	90.2	88.1	86.8	92.0	92.1
Red meats	47.7	50.8	46.8	44.6	44.9	46.6
Cattle and calves	37.3	39.4	36.4	34.0	31.9	33.5
Hogs	10.0	10.9	9.9	10.1	12.4	12.5
Sheep and lambs	0.5	0.6	0.5	0.6	0.6	0.6
Poultry and eggs	15.5	17.3	18.4	19.1	21.2	20.7
Broilers	9.2	10.4	11.4	11.8	13.1	13.0
Turkeys	2.4	2.5	2.6	2.8	3.0	3.1
Eggs	3.4	3.8	3.8	4.0	4.4	4.0
Dairy products	19.7	19.2	19.9	19.9	22.8	21.6
TOTAL RECEIPTS	171.3	177.6	180.8	185.8	200.4	193.7

F = forecast. Totals may not add due to rounding.

1/ Includes sugar, seed, and other miscellaneous crops.

2/ Includes miscellaneous livestock and livestock products.

Appendix Table 5--Farm production expenses, 1992-97F

Item	1992	1993	1994	1995	1996F	1997F
Billion dollars						
Farm-origin	38.6	41.2	41.3	42.5	44.7	42.9
Feed purchased	20.1	21.4	22.6	24.5	27.0	24.1
Livestock and poultry purchased	13.4	14.6	13.2	12.6	11.7	12.4
Seed purchased	4.9	5.2	5.4	5.5	6.0	6.4
Manufactured inputs	20.1	20.5	21.7	23.4	25.2	25.8
Fertilizer and lime	8.3	8.4	9.2	10.0	10.5	10.8
Pesticides	6.5	6.7	7.2	7.7	8.3	8.4
Petroleum fuel and oils	5.3	5.3	5.3	5.7	6.3	6.6
Interest	11.2	10.8	11.8	12.8	13.0	13.2
Nonreal estate	5.4	5.3	6.0	6.7	6.9	7.0
Real estate	5.8	5.5	5.9	6.1	6.1	6.2
Other operating expenses	47.3	52.4	55.7	60.0	61.9	63.0
Repair and maintenance	8.5	9.2	9.2	9.4	9.8	10.0
Machine hire and customwork	3.8	4.4	4.8	4.8	5.0	5.1
Marketing, storage & transportation	4.5	5.6	6.7	7.2	7.6	7.8
Labor	14.0	15.0	15.3	16.3	16.8	17.5
Miscellaneous	16.5	18.2	19.7	22.3	22.7	22.7
Other overhead expenses	35.3	35.6	37.0	36.9	38.3	38.8
Capital consumption	18.3	18.4	18.8	19.1	19.6	20.4
Property taxes	6.2	6.3	6.7	6.9	7.1	7.3
Net rent to nonoperator landlords	10.8	10.9	11.5	10.9	11.6	11.2
Total production expenses	152.5	160.5	167.4	175.6	183.1	183.8
Noncash expenses	15.2	15.2	15.4	15.7	16.1	16.8
Labor perquisites	0.5	0.4	0.4	0.6	0.6	0.6
Net capital consumption	14.7	14.8	15.0	15.1	15.5	16.2
Capital consumption exc. dwellings	16.1	16.2	16.4	16.5	17.0	17.7
- Landlord capital consumption	1.4	1.4	1.4	1.4	1.5	1.4
Operator dwelling expenses	4.1	4.1	4.6	4.8	5.0	5.1
Capital consumption	2.2	2.2	2.4	2.6	2.6	2.7
Interest	0.4	0.4	0.4	0.4	0.5	0.5
Property taxes	0.6	0.7	0.8	0.9	0.9	0.9
Repair and maintenance	0.6	0.5	0.6	0.5	0.5	0.5
Insurance	0.3	0.3	0.4	0.4	0.4	0.4
Cash expenses 1/	133.2	141.2	147.4	155.1	162.0	161.9

F = forecast.

1/ Total production expenses minus noncash and on farm operator dwelling expenses.

Appendix Table 6--Value added by the agricultural sector, 1992-97F 1/

Item	1992	1993	1994	1995	1996F	1997F
Billion dollars						
Crop output	89.0	81.9	99.8	95.1	113.8	102.9
Cash receipts	85.7	87.5	92.6	98.9	108.3	101.5
Home consumption	0.1	0.1	0.1	0.1	0.1	0.1
Value of inventory adjustment	3.2	-5.6	7.1	-3.9	5.3	1.3
Livestock and poultry output	87.1	91.7	89.7	87.7	92.0	91.7
Cash receipts	85.6	90.2	88.1	86.8	92.0	92.1
Home consumption	0.5	0.5	0.4	0.4	0.4	0.4
Value of inventory adjustment	1.0	1.1	1.1	0.5	-0.4	-0.8
Farm-related income	8.2	9.1	9.2	10.9	11.2	11.6
Gross rental value of farm dwellings	7.1	8.0	9.3	9.4	10.1	10.8
Equal: Agricultural sector output	191.4	190.8	208.0	203.1	227.0	216.9
Less: Intermediate consumption outlays	93.4	100.4	104.7	111.2	116.4	115.8
Farm origin	38.6	41.2	41.3	42.5	44.7	42.9
Feed purchased	20.1	21.4	22.6	24.5	27.0	24.1
Livestock and poultry purchased	13.6	14.6	13.2	12.6	11.7	12.4
Seed purchased	4.9	5.2	5.4	5.5	6.0	6.4
Manufactured inputs	20.1	20.5	21.7	23.4	25.2	25.8
Fertilizer and lime	8.3	8.4	9.2	10.0	10.5	10.8
Pesticides	6.5	6.7	7.2	7.7	8.3	8.4
Fuel and oils	5.3	5.4	5.3	5.7	6.3	6.6
Other	34.7	38.8	41.8	45.2	46.5	47.1
Repair and maintenance	8.5	9.2	9.2	9.4	9.8	10.0
Machine hire and custom work	3.8	4.4	4.8	4.8	5.0	5.1
Marketing, storage, and transportation	4.5	5.6	6.7	7.2	7.6	7.8
Contract labor	1.7	1.8	1.8	2.0	2.0	2.0
Miscellaneous	16.2	17.8	19.3	21.8	22.2	22.2
Plus: Net Government transactions	2.6	6.7	0.8	-0.1	0.3	-0.2
+Direct Government Payments	9.2	13.4	7.9	7.3	7.8	7.6
-Vehicle registration and licensing fees	0.4	0.4	0.4	0.5	0.5	0.5
-Property taxes	6.2	6.3	6.7	6.9	7.1	7.3
Equal: Gross value added	100.6	97.1	104.0	91.9	110.9	100.9
Less: Capital consumption	18.3	18.4	18.8	19.1	19.6	20.4
Equal: NET VALUE ADDED	82.3	78.7	85.2	72.8	91.3	80.5

F = forecast.

1/ Components are from the farm income accounts and include income and expenses related to farm operator dwellings. The concept is consistent that employed by the Organization for Economic Cooperation and Development.

Appendix Table 7--Farm business balance sheet, 1992-97F

	1992	1993	1994	1995	1996F	1997F
	Billion dollars					
Farm assets	868.9	904.6	938.1	978.0	1035.0	1096
Real estate	642.8	673.4	706.9	755.7	808.6	865
Livestock and poultry	71.0	72.8	67.9	58.1	59.0	60
Machinery and motor vehicles	85.5	86.7	87.9	86.9	89.0	90
Crops stored 1/	22.7	20.4	22.5	25.1	27.0	28
Purchased inputs	3.9	4.2	5.0	3.4	4.7	4
Financial assets	43.1	46.6	47.8	48.8	47.0	49
Farm debt	139.0	141.9	146.8	150.8	155.4	160
Real estate 2/	75.4	76.0	77.7	79.3	81.6	83
Nonreal estate	63.6	65.9	69.1	71.5	73.7	76
Farm equity	729.9	762.6	791.3	827.2	879.7	937

F = forecast.

1/ Non-CCC crops held on farm plus value above loan rate for crops held under CCC.

2/ Includes CCC storage and drying facility loans.

Appendix Table 8—Farm sector rates of return, 1992-97F

Item	1992	1993	1994	1995	1996F	1997F
			Percent			
Rate of return on assets	4.1	3.0	3.7	1.7	4.2	4.0
Real capital gains on assets	-0.1	2.3	1.3	3.5	2.9	2.4
Total real return on assets 1/	4.0	5.3	5.0	5.2	7.2	6.4
Average interest rate paid on debt	7.8	7.4	7.9	8.3	7.7	7.7
Real capital gains on debt	3.1	2.3	2.4	2.0	3.2	4.1
Real cost of debt 2/	4.7	5.2	5.5	6.3	4.5	3.6
Rate of return on equity	3.4	2.2	4.9	0.5	3.6	3.3
Real capital gains on equity	1.0	5.1	1.9	4.5	3.8	3.3
Total real return on equity 3/	4.4	5.4	4.8	5.0	7.4	6.6
Real net return on assets financed by debt 4/	-0.4	0.2	-0.5	-1.1	2.7	2.8

F = forecast. Numbers may not add due to rounding.

1/ Rate of return on assets from current income plus rate of return from real capital gains.

2/ Average interest rate paid on farm debt minus real capital gains on debt.

3/ Rate of return on equity plus rate of return from real capital gains.

4/ Total real return on farm assets minus the real cost of debt. When the total real rate of return on assets exceeds the total real cost of farm debt, debt financing is advantageous.

Appendix table 9 –Farm financial measures, 1992-97F

Ratios	1992	1993	1994	1995	1996F	1997F
Liquidity ratios:						
Farm business debt service coverage 1/	2.42	2.55	2.16	2.01	2.29	2.1
Debt servicing 2/	0.14	0.14	0.14	0.15	0.14	0.14
Times interest earned ratio 3/	5.84	5.59	5.66	4.24	5.70	4.9
Solvency ratios:						
Debt/asset 4/	16.0	15.7	15.6	15.4	0.2	14.6
Debt/equity 5/	19.1	18.6	18.6	18.2	17.7	17.0
Profitability ratios:						
Return on equity 6/	3.4	2.2	2.9	0.5	3.6	3.3
Return on assets 7/	4.1	3.0	3.7	1.7	4.2	4.0
Financial efficiency ratios:						
Gross ratio 8/	70.7	70.6	74.5	76.2	73.7	75.3
Interest to gross cash farm income 9/	5.7	5.2	5.8	6.1	5.5	5.7
Asset turnover 10/	22.0	22.6	21.5	21.2	21.8	20.2
Net cash farm income to debt ratio 11/	47.8	44.5	47.5	49.3	45.5	41.6

P= preliminary. F = forecast.

1/ Assesses the ability of farm businesses to repay interest and principal associated with farm business debt from net cash farm income. Higher values indicate a better cash position.

2/ Indicates the proportion of gross cash farm income needed to service debt. Lower values indicate a relatively better cash position.

3/ Focuses on the ability to meet interest payments out of net farm income. A higher value of the times interest-earned ratio indicates that net farm income covers more interest expense and that operator equity is less exposed to risk.

4/ Indicates the relative dependence of farm businesses on debt and their ability to use additional credit without impairing their risk-bearing ability.

5/ Measures the relative proportion of funds provided by creditors (debt) and owners (equity).

6/ Measures the per dollar returns to equity capital employed in the farm business from current income.

7/ Measures the per dollar return to farm assets from current income.

8/ Gives the proportion of gross cash farm income absorbed by cash production expenses. The higher the value of the ratio, the less efficient the farm sector is considered to be.

9/ Gives the proportion of gross farm revenue absorbed by interest payments. Higher values indicate a relatively fixed expense structure and less flexibility in meeting expenses as they arise.

10/ Measures the gross cash farm income generated per dollar of farm assets. The higher the value of the ratio relative to similar sized operations, the more efficiently the farm business uses its assets.

11/ Reflects the strain placed on cash-flow to retire debt. The lower the value, the greater the stress placed on cash income to retire farm debt on schedule.

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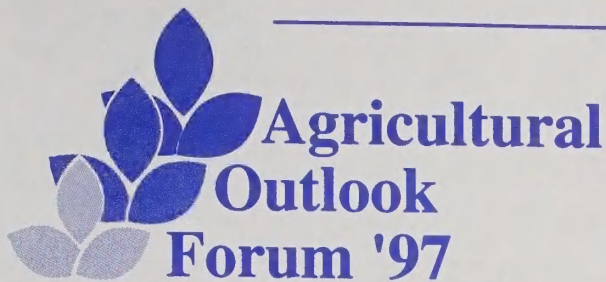
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